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FINANCIAL TIMES

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No. 28,264

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NEWS SUMMARY

GENERAL

BUSINESS

Suarez changes Spanish Cabinet

Spanish Prime Minister Adolfo Suarez yesterday carried out a big Cabinet reshuffle aimed at attracting wider support in Parliament and improving his image in the country.

The second reshuffle in five months, it had been under consideration for more than a month and was formally provoked by the resignation of deputy Prime Minister Fernando Abril Martorell.

The main changes involve the return of some critics of Mr. Suarez and distribution of some portfolios to more liberal wings of the party. Sr. Leopoldo Galvo Sotelo, a former Minister for European Affairs who has the confidence of the business community, has been put in charge of economic affairs. The Government's economic record has been the target of much criticism.

Call for aid

West German Chancellor Helmut Schmidt urged OPEC and Communist countries to provide more aid for Third World nations hit by soaring oil prices. Back Page

Jet crashes

An American McDonnell-Douglas Hornet combat plane, star of the recent Farnborough air show, crashed after take-off in the UK. The crew of two were taken to hospital.

Students riot

About 1,500 black students rampaged through streets in Kimberley, South Africa, stoning police and breaking into houses. Police charged 19 with damage to property.

Black unions

NATO troops began a big exercise in Western Europe, aimed at testing Britain's ability to reinforce the West German front, while Warsaw Pact troops started exercises near the Polish border. Page 2

Androsch may go

Austrian Finance Minister Dr. Hannes Androsch is expected to resign all Government posts today after allegations about his business interests. He had been regarded as the likely next Chancellor. Page 2

Publisher dead

Philip Dosse, 55-year-old publisher and proprietor of Hansom Books, was found dead at his London home. Last week his group of seven arts magazines ceased trading and Dosse said there was not even enough money to pay staff.

Rebels warned

Sixteen Labour Right-wing rebels were given a month to withdraw a threat to stand against Labour Left-wingers at the next general election or face expulsion from the party. Page 8

Briefly...

More than 100,000 paid homage in Tehran to those killed in anti-Shah demonstration two years ago.

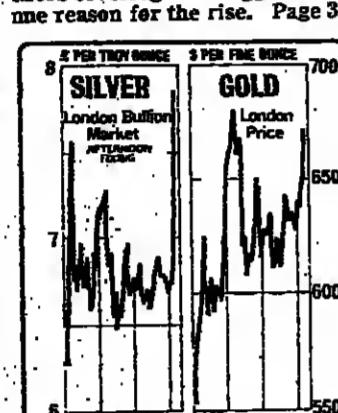
Two men were sentenced at Old Bailey in three year's jail for killing a woman during an exorcism.

Chinese Government has reduced ceremonies for visiting heads of state, to save time.

About ten British tourists were injured in a road accident near St. Omer, northern France. Page 24

Gold Mines index at record

GOLD reached its highest level since July 7 in London, closing \$21 up at \$672.5. Some short covering was suggested as a reason for the rise. Page 31



SILVER surged in London, influenced mainly by the rise in gold. The LME cash price closed 69.5p up at 734p. Page 33

GILTS hardened on news of the fifth monthly fall in manufacturing industry's costs. The FT Government Securities index finished 0.1% up at 69.63. Page 34

EQUITIES put in a late rally to close 24 down at 492.0. GOLDS raced ahead, demand intensified, after hours on renewed U.S. support. The Gold Miners Index rose 19.5% in a record 447.5. Page 34

DOLLAR lost ground, closing at DMI 7770 (DM1.7815). Its trade-weighted index fell to 83.5 (82.7). Page 31

SHILLINGS traded quietly ahead of the banking figures. Its index was unchanged at 76.5. Against the dollar, it rose 50 points to finish at \$241.5. Page 31

WALL STREET was 6.66 down at 934.30 near the close. Page 32

U.S. INTEREST RATE rises are temporary, says Treasury Secretary William Miller. Page 34

ORDERS for U.S. semiconductors fell below the level of sales in July, the first time this year. Back Page

AUSTRALIA is considering retaliation against possible U.S. anti-trust judgments on uranium producers. Back Page

CHINA's failure to step up oil production means it will be unable to meet export pledges to Japan, says a Japanese official. Page 4

GOVERNMENT Actuary has seriously underestimated the cost of providing index-linked pensions for civil servants, says the Centre for Policy Studies. Page 8

FIRE BRIGADES Union's new general secretary is to be Ken Cameron.

MOLINEUX, French domestic appliance manufacturers, is to lay off nearly half of its 10,700 workforce. Page 26

METAL BOX, Britain's biggest can maker, is to close two factories with the loss of 1,260 jobs and warns of further redundancies. Back Page

MASSEY FERGUSON of Canada, the world's third largest farm equipment manufacturer, lost \$82.9m (\$36m) in the nine months to July 31, against a profit of \$10.41m last year. Page 26

ETR, rubber manufacturing group, boosted first half pre-tax profits by £9m to £36.4m on substantial gains in all countries except the UK. Page 22; Lex, Back Page

METAL CLOSURES Group, metal and plastic products maker, reports first half taxable profits £22,000 down at £2.56m. Page 24

REBELS warned

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CHIEF PRICE CHANGES YESTERDAY

(Prices in pence unless otherwise indicated)

RISES:	
Treasury 12pc	£22 + 1
Treas. 13pc	£100 + 1
Aeronautical & Gen. 555 + 25	
Anal. Distilled Pds. 44 + 3	
Branial (C. D.) 56 + 4	
Dorada 54 + 5	
Electrocomponents 734 + 12	
Haynes Publishing 128 + 5	
Horizon Travel 298 + 8	
Laurence Scott 66 + 6	
Lex. Services 88 + 4	
Man. Ship. Canad. 227 + 10	
Moran (C.) 24 + 3	
St. George's Linen 65 + 19	
Double Eagle 510 + 190	
Pict Petroleum 360 + 100	
Warrior Resources 580 + 100	
Cons. Gold Fields 572 + 25	
Free State Geduld 223 + 25	
Geometrics 52 + 7	
Int. Mining Corp. 62 + 10	
Position 202 + 32	
Bandfontein 1351 + 24	
Target Petroleum 32 + 8	
Venterpost 840 + 53	
FALLS:	
Arrow Chemicals 224 - 51	
Corner Dresses 49 - 5	
Cray Electronics 63 - 5	
Danish Bacon "A" 106 - 6	
Esperanza 112 - 8	
Hambros Bank 533 - 26	
Home Charm 94 - 8	
Home Counties Newspapers 73 - 5	
London Trd. Optns. 17 - 10	
Crossword 18 - 15	
Entertain. Guide 26 - 10	
Euromarkets 23 - 6	
European News 2.3 - 2.5	
Cons. Gold Fields 572 + 25	
Free State Geduld 223 + 25	
Geometrics 52 + 7	
Int. Mining Corp. 62 + 10	
Position 202 + 32	
Bandfontein 1351 + 24	
Target Petroleum 32 + 8	
Venterpost 840 + 53	
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EUROPEAN NEWS



Count Otto Lambsdorff, W. German Economics Minister: far from concerned that he may be catapulted out of office.

The world according to Count Otto Lambsdorff

BY JONATHAN CARR IN BONN

IT IS not easy to catch the flying figure of Count Otto Lambsdorff, the West German Economics Minister. If he is not touring China, or chairing a meeting of the International Energy Agency (trade and energy are two responsibilities of his "super-ministry"), he is likely to be on the campaign trail. The general election is less than a month away, and Count Lambsdorff's liberal Free Democratic Party—the junior partner in the Bonn coalition with the Social Democrats—is fighting for its life. At the last election the Free Democrats gained only 7.5 per cent of the vote—and if they gain less than 5 per cent they will get no seats in the Bundestag.

Tracked down in a Duesseldorf restaurant, Count Lambsdorff seemed far from concerned that he might soon be catapulted out of office. He ranged over East-West relations, British energy policy, the European Community and domestic affairs with the air of a man who expects to be grappling with such problems for a long time to come.

Renowned for his directness,

he lost no time in despatching one topical question: relations with the East. Poland had just been given a DM 1.2bn (£281m) commercial credit, a third of it guaranteed by the Government, and now Yugoslavia wants a total loan from West Germany of DM 3bn. Was Bonn ready to relax its rules, under which financial credits could be state-backed only if they helped to secure raw materials supplies for the federal republic? The answer was no. If Yugoslavia produced a suitable raw materials project, Bonn would consider it. But so far, Count Lambsdorff was not aware of one. The aim should be to help Yugoslavia—a developing country—internationally, for example through the World Bank or perhaps the European Investment Bank.

If the West German Government were to depart from this principle, political as well as financial problems would ensue. Mr. Alexei Kosygin, the Soviet Prime Minister, had asked him what the state would guarantee trade with China. The answer had been that it would do so on the same basis as with any

other country, including the Soviet Union. The Chinese themselves had not been too happy with this message. Count Lambsdorff recalled, but it did no good to raise false expectations. His recent visit to China had confirmed that trade would most probably develop mainly on the basis of Chinese raw materials, which Germany greatly wanted, in return for German industrial goods.

As for Soviet trade, Bonn would stick to its promise not to take business from Moscow, which U.S. firms lost because of the restrictions. President Jimmy Carter imposed after the Soviet invasion of Afghanistan.

Bui, he added more cautiously, it had always been necessary to make clear to the U.S. that trade with the Soviet Union and Eastern Europe played a bigger role in the West German economy than it did in the economy of the United States.

Turning to Western Europe, Count Lambsdorff expressed his support for the economic philosophy of Mrs. Thatcher, Britain's Prime Minister. He was not sure whether the

British Government's actions would be enough to counter what he felt were years of misplaced policy based on Keynesian theories, an outmoded trade union structure, and in many cases "lousy British management." But there was no fundamental reason why the British with their abilities and natural resources, should not do as well economically as the Germans.

Did the West Germans want major changes in Britain's energy policies? The answer, perhaps surprisingly, was no. There had been a time when the Bonn Government complained about the high price of British oil. Now Bonn merely demands that Britain not lead elections were out of the way early next year and the big debate began on the European Community's farm policy, the budget and enlargement. No one, he said, should be under any illusions. The French were making absolutely clear that the basis of the Common Agricultural Policy was not up for discussion—only changes, not reform, which would help to deal with the problem of surpluses. One thing was certain.

The only major request to Britain was for increased oil-sharing efforts in times of crisis. But was not Britain committed under International Energy

Agency rules to such a policy—when a trigger indicating oil supplies had fallen below a particular level was set off? Yes, Count Lambsdorff agreed, but perhaps Britain could do a little more for its European partners to see that the trigger point was not reached.

In any case, he had long been a firm believer that British energy and the question of change within the Common Agricultural Policy could be linked. Perhaps they could be when the French presidential elections were out of the way early next year and the big debate began on the European Community's farm policy, the budget and enlargement. No one, he said, should be under any illusions. The French were making absolutely clear that the basis of the Common Agricultural Policy was not up for discussion—only changes, not reform, which would help to deal with the problem of surpluses. One thing was certain.

The basis of 1 per cent value added tax for financing the Community budget must on no account be exceeded, not even if a solution on farm policy were found which would cost 1.1 per cent of VAT.

And who on the West German side in a new cabinet was going to see these changes in farm policy through? The answer is Count Lambsdorff's Free Democrat Party friend, Herr Josef Ertl—who has been Farm Minister for 10 years and had never actually resigned, despite several threats to do so. Count Lambsdorff did not think much of the question of whether he might like to include agriculture policy in his Economics Ministry. Nor did the Social Democrats want the Farm Ministry, despite their complaints about the Common Agricultural Policy. Herr Ertl should stay.

So there would be no major cabinet changes if the Social Democrats and Free Democrats won on October 5? The answer, as Count Lambsdorff glances at his watch and rises to leave, is diplomatically but clearly phrased. Chancellor Helmut Schmidt, he says, is not one who willingly sees major changes among those around him who hold responsible positions.

Tempestuous four months ahead as Soviet Union stands in the dock

BY DAVID TONGE, DIPLOMATIC CORRESPONDENT

What the diplomatic jargon disguises

Five years ago 35 States in Europe and North America signed in Helsinki a document confirming the post-war division of Europe. The States also agreed on principles of human rights and how they should treat each other.

The document now widely known as the Helsinki accord, has become obscured with jargon. It is the Final Act of the Conference on Security and Co-operation in Europe. It contains four "baskets," as the groups of subjects have become known. It also involves, as a diplomat might say, CBMs and

rights" of Britain's 2m unemployed.

The debate could prove as heated and ultimately unproductive as did the first review conference in Belgrade. This focused on the issue of human rights. With Afghanistan now top of the West's agenda, it might be asked why the Russians are prepared to attend.

The answer lies in the origins of the Helsinki Final Act.

These date back to the early 1950s when Russia abandoned its proposals for a reunified and neutralised Germany and sought to involve "two German states" in a European security treaty.

By the early 1970s they were pressing mainly for the recognition of existing borders.

The resulting conference on security and co-operation in Europe led to a bargain. The West traded the "inviability of frontiers" in return for gaining, and giving, the right for each country to monitor human rights developments elsewhere.

That all 35 European coun-

tries taking part in the conference had insisted on the right of veto meant that countries like Malta were able to impose undertakings on Mediterranean security on the conference.

BASKET III deals with human rights, flows of people, information and culture.

BASKET IV sets out resolutions on following up the Helsinki meeting.

In the field of disarmament

the French have put forward a proposal for a conference on disarmament in Europe (CDE). This will probably gain the grudging support of NATO countries. The Russians are proposing a conference on military defence and dis-

armament (CMD and D).

Moscow remains involved in the Helsinki process not just because of its concern for the fixing of borders but also because it likes to be seen sitting on equal terms with the West and wishes to emphasise the West's willingness to insist on the Act's enforcement.

Delegates generally expect the preparatory conference to be low-key.

It remains to be seen whether what diplomats call the "atmospheres" and "climates" of the conference will allow the delegates to proceed from acrimony over the past to pro-

posals for the future. In the field of security new proposals which may be tabled include suggestions for more inter-

change of military observers and, more controversially, for further disarmament confer-

ences.

The French, with partial and

grudging support from NATO are proposing a conference on disarmament in Europe. They would like to define Europe as Gaulists and school textbooks do, as stretching from the Atlantic to the Urals. The Final Act only requires notification of manoeuvres up to 250 kms inside the Soviet Union.

In the economic field, the West is pressing for more commercial information from Comecon while the East would like to follow up recent conferences on science and the environment with one on energy. At the moment this suggestion is resisted by European Community countries.

On human rights the West will be putting forward proposals to speed up unification of families, pressing the Eastern bloc to speed up the issue of passports, and urging the improvement of working conditions for groups such as journalists.

Finally, the Madrid meeting will have to decide if, when and where to hold a further review conference. But with Madrid, Belgrade expected to be tempestuous, few people are suggesting that it could be a case of third time lucky.

For almost 20 years, all America's Cup winners have chosen the same vital piece of equipment.

The America's Cup will always be the ultimate symbol of yacht-racing supremacy.

Two highly trained crews drawing on all their skill, teamwork and experience; battling it out over a seven-race series in the two most competitive 12-Metre yachts in the world. Battles that America have never lost, despite the 130 years of competition and 23 separate challenges.

The Cup was first brought home to the USA in 1851. The schooner "America" beat 14 other vessels in a race around the Isle of Wight, held as part of the celebrations of the first World's Fair.

In 1857, the owners of "America" deeded the Cup to the New York Yacht Club, on condition that it would forever be placed in international competition and that this would be "friendly competition between nations."

The deed also laid down the rules and regulations governing the course, boats and equipment. Rules and regulations which,

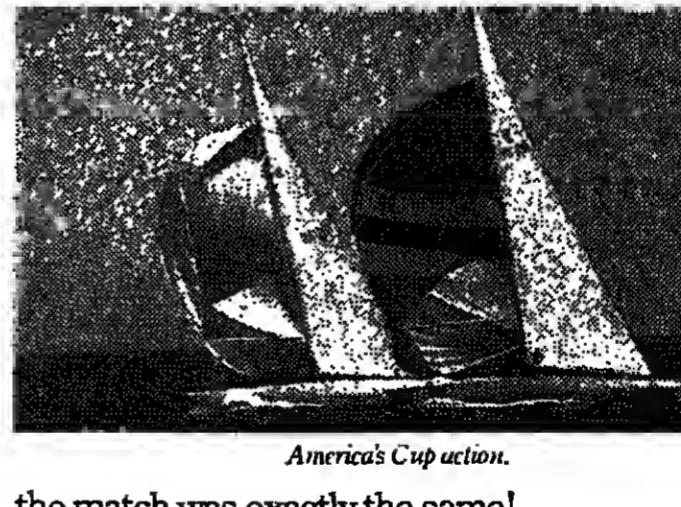
even today, can only be changed by application to the Supreme Court of the State of New York.

In the following 80 years, the New York Yacht Club accepted, raced and defeated 16 challengers for the Cup, perhaps the most notable being those sponsored by Thomas J. Lipton, the tea millionaire, who tried no less than five times to take the Cup back to England. Alas, his five boats—Shamrocks I-V—suffered the same fate as the rest.

After the intervention of World War II, the number of challengers capable of building a J-class boat dwindled alarmingly, and for a while it seemed as though the Cup would never be raced for again. But in 1956, the Royal Yacht Club of Great Britain, indicated that it would challenge again if a match could be arranged in the 12-Metre class.

An application to the Supreme Court was made; the deed was modified, and the challenge was on.

But despite the changes, the result of



America's Cup action.

the match was exactly the same!

The rules governing the construction of a modern 12-Metre yacht are very simple, yet very restrictive and therefore produce yachts which are very similar in shape.

Little wonder then that latter-day 12-Metre designers have experimented with new construction techniques, and exhaustive computer evaluated tank testing, striving to find the perfect balance between weight, strength, efficiency and reliability.

Attempting to give their crews a significant advantage.

However, for defending America's Cup crews it has not been necessary to change one vital piece of equipment for almost 20 years.

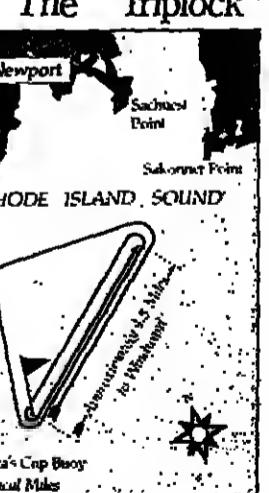
The watches that they all

wear. Rolex Oyster Submariners. Painstakingly assembled by hand, their reliability is guaranteed even under the most testing conditions (they are Official Swiss Chronometers).

The unique Oyster case is as hard to get into and as impervious to shocks as its name suggests. The "Triplock" winding crown screws down to provide an impenetrable barrier against dust, dirt, and water to a depth of 200 metres.

Qualities which are recognised and appreciated by every crew member who competes in the America's Cup.

Because they all know that this particular contest proves one thing more than any other. Second best is not enough.

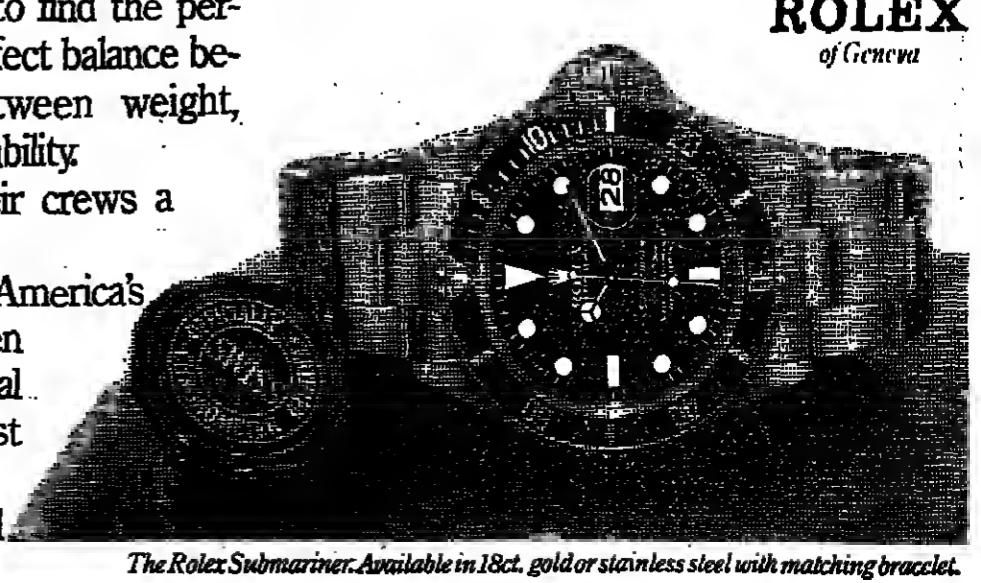


The course.



ROLEX

of Geneva



The Rolex Submariner. Available in 18ct. gold or stainless steel with matching bracelet.

OVERSEAS NEWS

Zhao Ziyang's long march to the premiership

BY TONY WALKER IN PEKING

MR. ZHAO ZIYANG, China's new Prime Minister, believes in hard work and modern methods of economic management. It was noticeable at sessions of the National People's Congress (China's parliament) that he spent more time bent over his papers than other senior colleagues who were content to sit quietly listening to proceedings.

Unlike Chairman Hua Guofeng, the outgoing premier and a virtual unknown, when he was elevated to the premiership in 1975, Mr. Zhao is a national figure who has enjoyed a surge of publicity in the past year. In fact, it could be said that his rise has been shrewdly stage-managed by Mr. Deng's forces.

His assumption of the premiership is not surprising. Mr. Zhao has just completed a successful tour of duty as party boss in Sichuan, China's most populous province.

Perhaps, more important, he enjoys the patronage of Mr. Deng Xiaoping, the most powerful figure in the Communist hierarchy, who has spent the past year or so manoeuvring his protégés into important roles.

At this point, Mr. Deng began letting it be known that Mr. Zhao was in charge of the state apparatus. Then, in June, Mr. Hu Yaobang, general secretary of the Community Party Central Committee, hinted in an interview with Yugoslav journalists that an important change in state leadership was on the way. In the meantime, foreign diplomats have been told privately that Chairman Hua was likely to relinquish the premiership.

No doubt, the new premier has been preoccupied with preparing for the Congress, which has embraced the progressive policies he followed in Sichuan. In effect, the Congress has turned Mr. Zhao's provincial policies into national ones.

What are the Chinese people getting in their new premier? As with many officials of his generation, information about Mr. Zhao is sketchy. He was born to a well-to-do family in Henan province, central China, in 1918. He joined the then underground Communist Party when he was 20 and was an activist for the next dozen or so years until he was posted in 1956 to Guangdong province, south China, after the Communist triumph.

Through it all, Mr. Zhao has been visible, but not too visible. He has met his share of visitors, but has not overdone it. Most important ceremonial tasks have been left to Chairman Hua.

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been preoccupied with preparing for the Congress, which has

embraced the progressive policies he followed in Sichuan. In effect, the Congress has turned Mr. Zhao's provincial policies into national ones.

He worked his way through several administrative jobs until his appointment in 1956 as political commissar in Guangdong's People's Liberation Army provincial command—an important military and administrative party position.

In 1965, he was made first party secretary in charge of provincial affairs.

Mr. Zhao was not able to

enjoy his appointment as provincial leader for very long. In 1968, along with just about everyone else in authority in China, he was criticised at the outset of the Cultural Revolution. He was purged the next year, and although he is said to have been rehabilitated by

the late 1960s, he re-emerged only in 1971 as a party official in Inner Mongolia. That could hardly have been regarded as a promotion.

Nevertheless, by 1974 he was back in Guangdong as first party secretary. In 1975, he was posted as provincial boss to Sichuan, apparently at the urging of Mr. Deng, who had himself been recently rehabilitated. The Sichuan appointment was to provide the springboard for Mr. Zhao's rise to national prominence.

The province was in a shambles after the Cultural Revolution, and in the three years up to 1979 achieved remarkable results. In those years, according to local officials, the annual growth rate was 22 per cent.

Mr. Zhao's reforms included encouraging local peasants to cut down the number of crops each year, thereby increasing productivity and causing less waste.

He also overhauled industry, instituting a system of self-management which led to sharply increased productivity. People in Chengdu and Chongqing, Sichuan's largest cities, speak approvingly of his stewardship.

In 1978, a most important pointer to Mr. Zhao's rise through the party was given when he accompanied Chairman Hua to Romania, Iran and Yugoslavia. Systems of economic management in the latter were

undermined in some of the reforms now being instituted in China. It was about this time



Zhao Ziyang

that he began appearing in Peking in connection with important party matters. He was appointed an alternate member of the Politburo in August 1977, and a full member a little more than a year later. Mr. Zhao is likely to have a busy time in his first months as Premier. One of his first visitors will be Mr. Robert Muldoon, New Zealand's Prime Minister, who arrives this week. But Mr. Zhao Ziyang, in the spring of his prime ministership of a quarter of the world's people, is likely to be preoccupied by rather bigger questions than the price of New Zealand lamb chops.

China 'unable to meet oil export commitments to Japan'

BY RICHARD C. HANSON IN TOKYO

CHINA'S OIL production, which had been expected to rise rapidly enough to sustain a doubling of its annual shipments to Japan by 1982, is now expected to stay flat for several years, according to a Japanese trade official who has just returned from Peking.

Mr. T. Yano, Vice-Minister at the Ministry of International Trade and Industry, estimates that, because of the shortfall, China will have to ask to be "excused" from supplying all the 9.5m tons of oil it was due to ship to Japan in 1981 under

a two-way trade agreement. An agreement to ship 15m tons of oil in 1982 has become completely unattainable. China is, however, expected to fulfil its undertaking to ship 8m tons of oil to Japan during 1980.

The reason for China's failure to step up oil production that exploration has been slow to get under way in the offshore areas (such as Pohai Bay in north-east China), while production from onshore fields is proving hard in increase.

More than 90 per cent of China's oil production is con-

sisted domestically, with the remainder (some 10m tons per year) being shipped to Japan and other Far Eastern countries.

Oil consumption in China is rising steadily as the economy expands, with the result that amounts available for export are apparently tending to diminish.

China could cease oil exports altogether if there are further delays in bringing offshore areas into production or if exploration in the offshore area fails to yield results. Explora-

tion in Pohai Bay is being con-

ducted on a joint venture basis

with China and Japan, with drilling due to get under way next month.

China's oil production problem undermines one of the basic premises of the eight-year private level economic co-operation agreement signed in 1978. That pact, presented with much fanfare at the time, calls for \$20bn (£8.3bn) in two-way trade. Oil, followed by coal, are the two main Chinese exports items, while Japanese business provides large amounts

of plant and machinery. The Japanese side has already sold a substantial part of that equipment. China's exports were expected to increase in the latter years of the agreement after Japanese-financed oil and coal development projects came on stream.

More emphasis may now have to be placed on coal. The Japanese are also exploring other possible means of increasing imports from China, such as joint development of non-ferrous metals. There is one tentative idea to develop

Anching copper mine in the north-east province of Anhwei. It appears possible that copper exports could eventually take up some of the "slack" likely to be caused by the stagnation of oil exports.

Mr. Tosilo Doko, chairman of the private level Japan-China Association on Economy and Trade, today begins two days of regular trade talks in Peking, with the oil problem high on the agenda. Under the original agreement, oil import levels for 1983-85 are to be negotiated by March next year.

Lee pessimistic over Singapore industry

NEW DELHI — Mr. Lee Kuan Yew, Singapore's Prime Minister, restated yesterday that Singapore may have been unwise to get into the petrochemical industry, and added:

"We have to get out of it."

Mr. Lee said at the end of the Asian and Pacific Commonwealth Conference that in 1978, Japan had identified 13 critical industries, including petrochemicals.

Lower-wage countries and high oil prices were squeezing the Japanese from world markets in these industries, prompting them to cut down on these sectors and transport them to South Korea, Taiwan and Singapore, Mr. Lee said.

"We have entered the petrochemical industry as a consequence. But looking ahead to the 1990s, I am wondering whether we were wise, because we will be squeezed by the middle or end of that decade."

The advantage for petrochemicals would go to oil-producing nations like Malaysia

and Indonesia, he added.

Kathryn Davies adds from Singapore: Mr. Lee's remarks are a major surprise here, coming so soon after the official ceremony inaugurating construction on the new petrochemical complex.

The first phase of the complex, scheduled for completion in mid-1982, provides for a \$1bn cracker drawing naphtha and liquid petroleum gas feedstock from Singapore refineries.

Barely six weeks ago, Singapore's Finance Minister, Mr. Ron Sui Sen, said the construction site on an island off the Singapore mainland would "be a live of construction activity."

Officials from the Economic Development Board have been quick to deny what they said were rumours from Delhi over the past few days.

Suggestions that the complex would take more than 10 years to break even have obviously worried Ministers.

Israeli plan to demilitarise the West Bank

By David Lennon in Tel Aviv

A PROPOSAL to demilitarise part of the West Bank and limit the Israeli military presence in other sections of the territory — provided Jordan joins the peace talks and agrees to take parallel steps — has been made by Mr. Ariel Sharon, Israel's Agriculture Minister.

This is one of the ideas which the Cabinet's arch-hawks, who is the driving force behind the Government's Jewish settlement policy in the occupied territories, presented to Mr. Sol Linowitz, U.S. special Middle East envoy, during his visit to the region last week.

According to Israel Radio, Mr. Sharon also said that if the authorities ruling the proposed Palestinian autonomy areas in the West Bank and Gaza undertook to prevent terrorism, Israel would give up its demand to control internal security in these areas.

Renter adds from Paris: Egypt and Israel must restore a climate of confidence and reach broad agreement on the vital question of Jerusalem before talks on the autonomy of Palestinians on the West Bank and Gaza can make headway, Dr. Hosni Mubarak, Egyptian Vice-president, said.

President Hafiz Al-Assad of Syria flew to Libya yesterday for summit talks with Col. Muammar Gaddafi, that are expected to lead to the formal union of the two countries and the strengthening of the radical Arab camp, Reuter reports from Beirut. The countries are 600 miles apart, but the merger plan has been interpreted in both their capitals as a way of ending Syria's isolation in the front line against Israel, and of strengthening opposition to the U.S.-sponsored Camp David accord.

Political solution' call

The heads of Government of the 16 Asian and Pacific Commonwealth nations yesterday called for political solutions in Afghanistan and Kampuchea that would leave both countries free from outside interference, Reuter reports from New Delhi.

The conference also declared that a Middle East settlement recognising the rights of the Palestinians was urgently needed.

S. Korea forecast

South Korea's growth rate will fall to about 3.2 per cent in 1980 and lowest for 17 years — the semi-official Korea International Economic Institute said yesterday. Reuter reports from Seoul.

Ford S. Africa accepts black shop stewards

By BERNARD SIMON IN JOHANNESBURG

IN AN important breakthrough for black trade unionism in South Africa, Ford's local subsidiary has agreed to the appointment of full-time shop stewards to represent the company's workers.

An agreement between Ford and three trade unions, one all-white and the other two representing black and mixed-race workers, provides for six full-time and 20 part-time shop stewards to negotiate with management on wages, conditions of employment and grievances. The full-time stewards will work under the authority of their unions, but will be paid by Ford.

The agreement has a double significance. Factory floor representation has until recently not been popular in South Africa. White workers, who

have accounted for the bulk of the unjoined workforce, have preferred to rely on union representatives, worker committees and industrial councils to negotiate wages and discuss grievances.

Furthermore, one of the unions which is a party to the Ford agreement, the United Automobile Worker and Allied Workers Union, has not been officially registered by the Government. South Africa's new labour dispensation is aimed at ostracising unregistered unions.

Mr. Fred Sauls, secretary of the coloured National Union of Motor Assembly Workers, another of the parties to the agreement, said it was "a move in the right direction for South African industrial relations."

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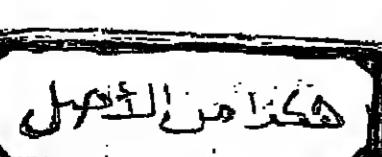
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AMERICAN NEWS

Miller expects higher prime to be temporary

BY DAVID BUCHAN IN WASHINGTON

THE RECENT climb in U.S. interest rates, including last week's rise to 12 per cent in the rate big banks charge their prime commercial customers, is "temporary," according to Mr. William Miller, the Treasury Secretary, in an interview published yesterday.

The Treasury chief told the New York Times that the U.S. was not facing "a period of sustained interest rate rises," but he did not forecast how fast or far they might fall. "Whether interest rates will get back quickly to where they were four weeks ago I don't know," he said.

Mr. Miller's words could be interpreted as a public signal to the Federal Reserve Board, the constitutionally independent central bank, to implement monetary policy gently in the next few crucial weeks. The Carter Administration is understandably nervous about the effect of rising interest rates on voters in the Presidential election.

But the Treasury Secretary also said there would soon be "clear signs of recovery" in the U.S. economy. Ironically,

Survey shows Carter level with Reagan

BY DAVID BUCHAN IN WASHINGTON

PRESIDENT JIMMY CARTER has drawn level with Mr. Ronald Reagan, his Republican challenger, for the first time in months, in a major national opinion poll.

The survey conducted for Time Magazine by the Yankelovich Polling Organisation gave each man 38 per cent of electorate support and showed the President with a 10 point lead among women voters, possibly reflecting the Republican Party's recently watered-down backing for the equal rights amendment.

Mr. John Anderson, the Independent candidate, came in a distant third with 15 per cent. But this is a slight improvement on his recent ratings and may win him inclusion in the forthcoming televised election debate with the two major candidates.

Yesterday Mr. Jody Powell, the White House Press Secretary, conceded that the Carter campaign effort to have one television debate with only the President and Mr. Reagan was making no headway. Mr. Reagan has refused to exclude Mr. Anderson outright in the knowledge that all the polls show

New York chooses Senate poll candidate today

BY PAUL BETTS IN NEW YORK

NEW YORK goes to the polls today to choose Democratic and Republican candidates for the U.S. Senate election in November after a primary campaign which was remarkable for unpleasantness and bad taste.

The battle in the Republican camp has been particularly unsavoury with the veteran and respected liberal-minded Senator Jacob Javits fighting to win a fifth term against his more conservative opponent, Mr. Alfonso d'Amato, the town supervisor of Hempstead on Long Island.

Mr. Javits is fighting his first major primary contest in his distinguished 24-year senate career, as in the past his nomination was not questioned. His opponent, according to the Senator, the senior Republican on the Senate Foreign Relations Committee, is seeking to unseat him by what he calls "goulish tactics."

The New York Republican Primary has been fought essentially on one issue—the 76-year-old Senator's failing health.

Mr. Javits, who became a Senator in 1958, first raised the issue when he announced last February he would seek re-

election and disclosed he had a motor-neuron disease—an illness which is slowly eroding his nerves.

Mr. d'Amato subsequently tailored his campaign—at times going to extremes—on the Senator's health. Thus New York television viewers have been treated to campaign commercials with a smooth voice telling them "and now, at 76 and in failing health he wants six more years" as the screen showed a crumpled Javits poster dropping to the floor.

In turn, Mr. Javits political commercials show the veteran Senator behind a desk saying: "I know my health—I would not run if I could not serve."

Not to be outdone, the Democrats have staged their own glittering primary show in New York. Among their four candidates are two of the more glamorous faces in American politics—Mr. John Lindsay, the former New York mayor, still according to some popular magazines "a bit of a dish," and a former Miss America, Miss Bass Myerson, who has made a name for herself as a consumer protection champion.

Rift in El Salvador army threatens more bloodshed

BY WILLIAM CHISLETT IN MEXICO CITY

A SERIOUS rift is developing in the armed forces of El Salvador which threatens to plunge the country into even greater bloodshed. The battle between Right and Left wing extremists has already killed 5,000 people in the Central American country this year.

Washington is watching the latest development closely. The U.S. fears that an army split would destroy the regime it has nurtured, and open the way for full-scale civil war, with repercussions on the whole unstable region.

The dissension in the ranks came to a head last week when Col. Adolfo Majano, one of the two military representatives in the five-man civilian-military junta, publicly protested at the

Bank curbs may be eased

By Paul Betts in New York

AN ADMINISTRATION task force is to recommend later this year a substantial easing of restrictions currently limiting Interstate activities by U.S. banking institutions.

This move, with major implications for foreign banks in the U.S., was confirmed by Mr. Stuart Eizenstat, President Jimmy Carter's chief domestic policy adviser, in a speech at the weekend to the American Bankers' Association in Washington.

He said the task force, set up in 1972, would recommend in its long overdue report a gradual liberalisation of the Douglas Amendment, which prevents U.S. banks from taking over banks outside their home states unless granted special dispensation by state authorities.

The debate over interstate banking is currently causing great interest among foreign banks, which have been increasing their penetration of the U.S. market in recent years. The most recent example is Midland Bank's proposal to take over Crocker National of California.

But Mr. Eizenstat indicated the task force would recommend a cautious approach to the liberalisation

Maralyn Edid in Chicago reports on the plight of one recently unemployed American

Down but not out in north-west Chicago

MR. PETER BAGNUOLO is to trim administrative expenses by 7 per cent. By 1982 the company wants to bring administration expenses back to the 1977 level.

Mr. Bagnuolo is a casualty of that campaign. His position as administrator of pensions and benefits for Blue Cross Blue Shield's 3,600 employees was merged in April with the post of salaries manager.

The company told Mr. Bagnuolo, who joined the firm seven years ago and has been working in employee benefits since 1975, that it preferred someone with a strong background in salaries management.

Although he has been out of work now since June, Mr. Bagnuolo is not despondent. He is determined to find the right job, preferably in employee benefits.

Every morning, Mr. Bagnuolo leaves his apartment on Chicago's north-west side, either to make the rounds of friends and acquaintances who might give him a job lead or to continue renovating the nine-flat apartment building he bought last year.

He can afford to wait for the right job. He is an adept home repair man and could hire himself out as a day-labourer.

He and his 39-year-old wife Barbara are qualified ski instructors, and Mr. Bagnuolo works in a ski patrol at a



Peter Bagnuolo . . . the unkindest cut.

nearby park during the winter. been thrifty livers, and so far have made relatively few adjustments in the family budget. Out

By next year the apartment building will also generate income.

The Bagnuolos have always

at least \$6,000, most of which has gone to finance the \$75,000 they have ploughed into renovating their investment.

Mrs. Bagnuolo's father owns the building they live in, where the monthly rent on their apartment is \$250. The couple do not use credit cards, and own their 1973 Ford outright.

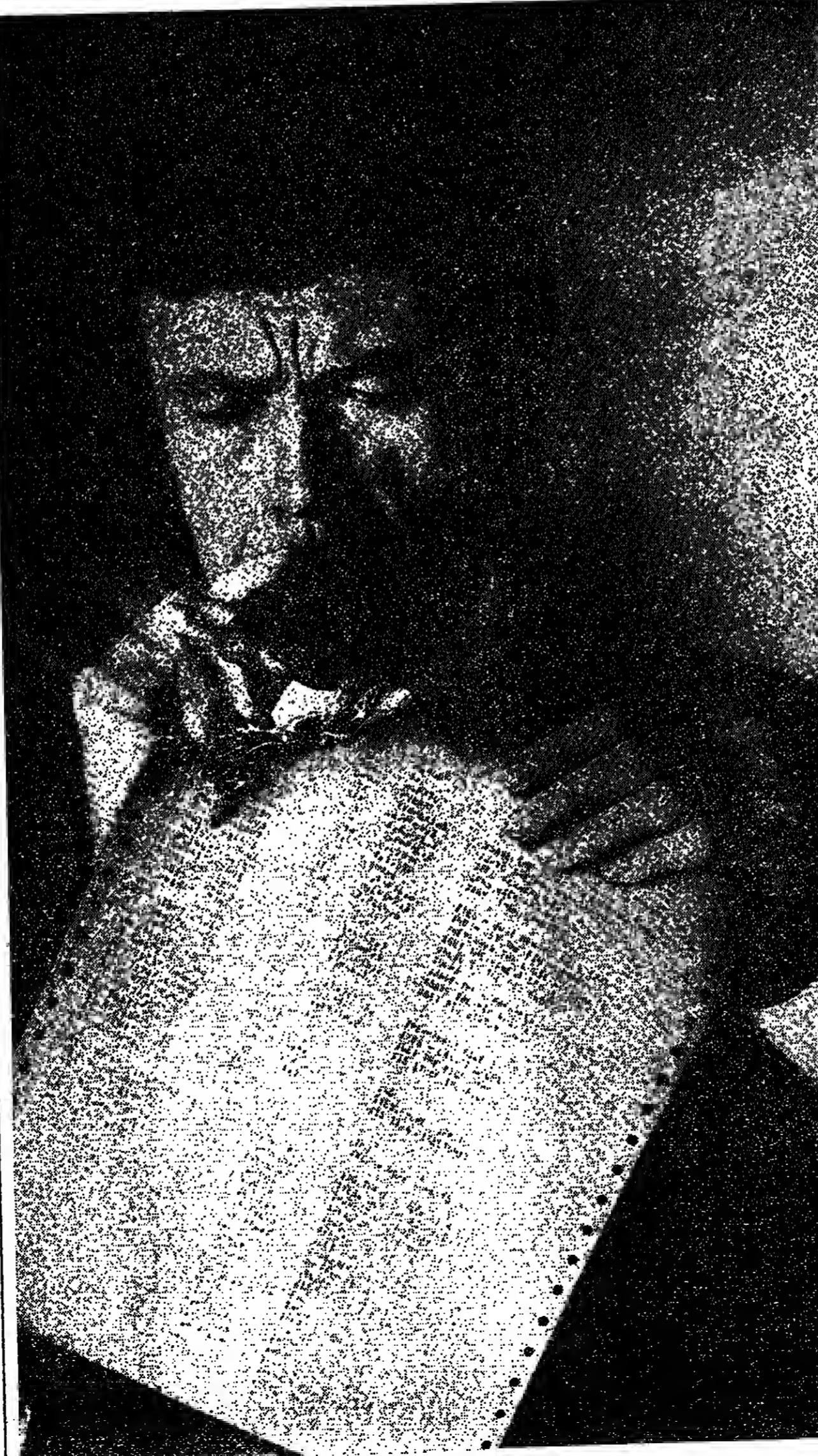
The Bagnuolos and their six-year-old daughter Susie favour poultry over more expensive beef. About the only expense the family has cut is entertainment—they rarely eat out and invite people less frequently.

Perhaps the most significant change is Mrs. Bagnuolo's decision to work 40 hours a week as a legal secretary, with placements made by a temporary employment agency.

For the past four and a half years she has done occasional work at home for \$10 an hour, earning the family an extra \$2,000-\$3,000 a year. As a temporary, she earns only \$6.50 an hour, but the income is more regular. She might take a permanent job if it met her standards of pay and flexibility.

Her husband has applied for unemployment insurance, which he estimates would bring in \$135 a week for 26 weeks if his application is approved. Mr. Bagnuolo says he will evaluate his prospects in November and perhaps decide to move in some other direction if he is still unemployed.

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WORLD TRADE NEWS

Ghana in attempt to rehabilitate Black Star Line

BY LYNTON MC LAIN

THE GOVERNMENT OF GHANA yesterday disclosed a series of measures to re-establish the credibility of the Black Star Line, the country's state-owned shipping line which has recently suffered from serious financial management and labour relations problems.

Black Star Line, a member of the UK/West Africa shipping conference, had debts of \$14m (£5.8m) as a result of "major problems" of management, liquidity, fleet replacement and discipline, according to Government officials.

But the problems of the line had now been given "top priority" by the Government, and Dr. Hilla Limman, the President, had taken charge of Black Star Line. Mr. Harry Sawyer, Minister of Transport and Communications, told a Press conference in London.

Measures to bring the "ailing organisation back to health" included the sacking of the entire top management by the Ghana Government. This followed a Government White

Paper earlier this summer on a report of the official committee of inquiry into the Black Star Line's problems. Mr. Sawyer said the "ineffectiveness of management over the years contributed in no small way to the line's liquidity problems."

Four "shipping experts" from West Germany had already taken over as managing director, traffic manager, financial controller and chief superintendent of the line. Mr. Jochen Bene, the new managing director, has been given a free hand by the Government to re-organise the line.

Other measures include the purchase of four new multi-purpose cargo vessels so far this year, from Hyundai Heavy Industries of South Korea.

The new management was expected to improve the financial position of the shipping line. But in the meantime, the outward processing relief could mean that Hong Kong garments would be 8-10 per cent cheaper for UK buyers, when British cloth is used.

India seeks wider EEC trade in Brussels talks

BY D. P. KUMAR IN NEW DELHI

MIR. PRANAB MUKHERJEE, India's Commerce Minister, will be in Brussels in the middle of this week to discuss wider promotion of Indo-EEC trade and economic collaboration. A five-year economic and commercial co-operation agreement with the EEC, now under negotiations in Brussels, will also figure at the discussions.

Mr. Mukherjee has also called a meeting of India's commercial representatives in Western Europe, also to be held in Brussels, and the purpose of this meeting is to develop a new strategy to boost India's exports to the EEC.

The issue of evolving a new strategy for India's exports to Western Europe has assumed urgency because of what is officially described as increasing tendency of protectionism in the

UK in move to simplify EEC rules

By Paul Cheeswright

THE GOVERNMENT has started talks with the EEC Commission on means of simplifying EEC Customs procedures affecting outward processing relief. Mr. Cecil Parkinson, the Minister of Trade, said in London yesterday on his return from a textile mission to Hong Kong.

If manufactured products from overseas contain UK materials they may attract a lower EEC tariff because of outward processing relief. Mr. Parkinson is pushing the matter in order to provide better opportunities for UK textile manufacturers to export cloth to Hong Kong.

The aim, as he put it, is "to get a bigger share of the cloth content of goods which are coming anyway," but he emphasised that Hong Kong garments would still enter the UK under quota.

The principal of such relief is already embraced by EEC regulations, but the procedures are so complicated they are rarely used. If used, the outward processing relief could mean that Hong Kong garments would be 8-10 per cent cheaper for UK buyers, when British cloth is used.

Other measures include the supply of four new multi-purpose cargo vessels so far this year, from Hyundai Heavy Industries of South Korea.

The new management was expected to improve the financial position of the shipping line. But in the meantime, the outward processing relief could mean that Hong Kong garments would be 8-10 per cent cheaper for UK buyers, when British cloth is used.

PACO has also invited Euro-

AFTER NEARLY four years of delay because of Government changes and bureaucratic red tape, Portugal's steel expansion plan has moved beyond the drawing board stage.

In recent weeks Siderurgia Nacional, the State-owned steel company, has signed a contract with one leading foreign concern and finalised arrangements with three more for the supply of all the major equipment needed for the modernisation of the country's major plant at Seixal near Lisbon.

Nearly 90 per cent of India's total exports to the region go to the UK, West Germany, Belgium, The Netherlands, France and Italy, with the UK and West Germany accounting for 47 per cent of the exports.

Similarly, 65 per cent of India's exports to the region are accounted for by only eight products—textiles and garments, leather and leather manufactures, tea, diamonds, oil cakes, tobacco, carpets and coffee.

The optimism of Portuguese steel officials is in striking con-

Italy, Algeria set for economic deal

BY RUPERT CORNWELL IN ROME

ITALY AND ALGERIA are drawing up details of a major economic co-operation agreement, perhaps ready for signature by the start of 1981, which should lead to a substantial increase in trade between the two countries.

In addition to defining areas of co-operation, the scheme, discussed at length during the stay in Algiers last week of Sig. Enrico Manca, the Italian Trade Minister, is likely to lead to the creation of a jointly owned Italo-Algerian bank to further exchanges between the partners.

Sig. Manca's trip was followed yesterday by another visit of a member of the Italian Govern-

ment. Sig. Antonio Bisaglia, the Industry Minister. In the meantime contracts worth some \$1.6bn (£866m) have already been finalised or are at a very advanced stage.

The latter include a \$400m tyre plant which could be supplied by the Pirelli Group, and two contracts with Fiat for units to produce industrial vehicles and earth-moving equipment respectively, said to be worth \$500m. These last two would be in addition to last week's \$230m deal, whereby the Turin group is to supply cars, trucks and earth-moving equipment.

Other possible contracts also being examined are for Italian companies to supply several smaller electric power stations.

and build a dam at Meskoutine Hamman in Algeria.

The deals are to be set against the background of the latest Algerian National Development plan worth some \$10.6bn and covering the period 1980-1984.

The mooted co-operation agreement is likely to include provisions for the transfer of Italian technology to Algeria and the training of Algerian skilled personnel. It is largely underpinned by the pipeline project between the two countries which from 1982 will see 10bn cubic metres of Algerian gas carried to Italy, and then into the European network.

The talks of Sig. Bisaglia with various ministers are likely to explore means of securing a

large subsequent increase in throughput. These might involve an increase in gas transported by the pipeline on which work is now being completed, or the laying of a second one alongside it.

This certainty of a sharp rise in Algerian energy exports to Italy could involve its imports being paid directly by shipment of gas. The various possibilities will be examined in detail during Sig. Bisaglia's discussions.

In the meantime, a £1.8bn (£8.8m) contract has been signed between Anic, of the ENI hydro-carbon group, and the Brazilian oil concern Petrobras, for the supply by Anic of chemicals for the production in Brazil of biodegradable detergents.

Tanzania in Sonatrach agreement

DAR ES SALAM—Tanzania and Algeria have signed an agreement under which Sonatrach, the Algerian state oil and gas company will undertake oil exploration here.

M. Belkaïd Nabi, the Algerian energy and petrochemicals Minister, said drilling will begin soon, focusing on the offshore Songo Songo Islands, 170 miles south of Dar es Salaam, where large natural gas reserves and traces of oil have been found in earlier boreholes financed by the World Bank.

The Tanzanian National Assembly recently approved a Bill regulating oil exploration and potential production.

• Zambia and Malawi have appealed to the Canadian Government to finance construction of a 28-kilometre stretch of the Malawi-Zambia railway.

Although construction costs have not been mentioned early estimates put the cost at about \$46m (£16.5m). The Canadian Government helped finance construction of the rail link between Salima and Llongwe in Malawi.—Agencies.

Suzuki to assemble cars in Pakistan

BY DAVID HOUSEGO

PAKISTAN, probably the largest Asian country without a passenger vehicle assembly plant, is now planning to manufacture cars.

The state-owned Pakistan Automobile Corporation (PACO) has reached agreement with Suzuki of Japan to assemble 800 cars models together with pick-up trucks and vans of the same engine capacity in Karachi.

PACO has also invited Euro-

pean and Japanese car manufacturers to submit proposals for manufacturing 1300-1500 cars in Pakistan.

Suzuki will have a 10 per cent stake in the venture, which has still to receive final Government approval. Planned output is 25,000 units a year of which 10,000 will be cars. Planned production of the medium sized car is 7,500 units a year.

Pakistan, with a population of

80 per cent of the components in five years.

Previous proposals for car manufacture in Pakistan included a "People's Car" to have been built with co-operation from Renault under the Government of the late Mr. Bhutto and a joint venture with Toyota.

The agreement with Suzuki provides for production, ultimately, of 15,000 vans and pick-up trucks.

Portugal's steel plan moves beyond the drawing board

BY JIMMY BURNS IN LISBON

AFTER NEARLY four years of delay because of Government changes and bureaucratic red tape, Portugal's steel expansion plan has moved beyond the drawing board stage.

Some 35 per cent of the equipment cost has been covered by export credit schemes. Siderurgia expects to meet its remaining financial needs through special arrangements with the Government. The company has already been authorised to increase its capital and to claim exemption from taxes on the declaration of dividends on pre-tax profits.

According to Sr. Fernando Marques Videira, Siderurgia's chairman, the estimated £800m investment involved in the first stage of the steel plan is "past the stage of no return" since final supply contracts will be signed within the next few weeks.

The optimism of Portuguese steel officials is in striking contrast to the atmosphere in neighbouring Spain, where relations between Madrid and Brussels' risk being soured further as a result of attempts by the EEC to block a large new Spanish steel development.

Portugal, like Spain, is due to be accepted into the EEC in 1983, but Portuguese industry officials insist that they have the green light from Brussels for their expansion. They claim that the Seixal plant is compatible with the policy of the Brussels Steel Commission, headed by the Vicomte Etienne Davignon, which aims to phase out older, smaller and less profitable plants and keep a strict discipline of production levels throughout the industry.

In scope and scale the Portuguese steel plan is different to Spain's, posing only a minimum threat to the Community once Portugal joins the EEC.

The project will concentrate on producing long-rolled products which, at present, account for

some 55 per cent of total steel consumption in Portugal.

The more ambitious second stage of the plan, a projected £60m (£304m) investment in a new integrated plant to produce flat rolled products at Sines, the industrial complex to the south of Lisbon, has been shelved. Portuguese steel officials have responded to the problems of the EEC and to the fact of Portugal's own limited financial resources. The Portuguese accept that the production of flat-rolled products in Europe was already well above a realistic capacity.

Not so the Spanish, it seems. Spain is aiming to build a hot-rolled coil complex to meet the demands of its expanding motor industry, even though overproduction of the coils in Northern Europe is currently threatening to discredit the entire Davignon plan.

Portuguese officials defend the Seixal project by emphasising that Portugal remains one of the few European countries which still has a potentially dynamic growth rate in steel consumption.

The average raw steel consumption per capita in Portugal is 130 kilograms, only a fifth of the European average. Spanish consumption is 390 kgs. Siderurgia economists predict that Portuguese steel consumption will triple by 1990, due to growth in sectors of the economy such as construction, metalmechanics, and automobile components manufacturing. Siderurgia currently accounts for 40 per cent of domestic needs so the aim is to raise the installed capacity at Seixal to 1m tonnes by 1990.

Siderurgia officials admit that present growth forecasts might be slightly optimistic and accept that in the first years of the expansion there may be a surplus of about 400,000 tonnes per annum as production outstrips demand. Nevertheless they insist that all equipment by 1983.

contracts, which have either been signed or are about to be finalised include clauses committing the supplier countries to either directly absorbing the surplus of long-rolled products produced at Seixal or to facilitating their exports through third countries.

One problem area concerns that of the raw materials needed for the plant. Portugal has low-grade ore deposits in the Mocovia mines of the north which are shortly to be developed by the National Mining Company. But Portugal will continue to be a net importer of coal, and the consequent effects of this on the balance of trade, particularly in terms of transport cost, may temper some of the advantages of plant modernisation. Portugal currently imports 350,000 tonnes of coal for its steel industry, mainly from the U.S. and Poland, a figure that will increase to 700,000 per annum by 1983.

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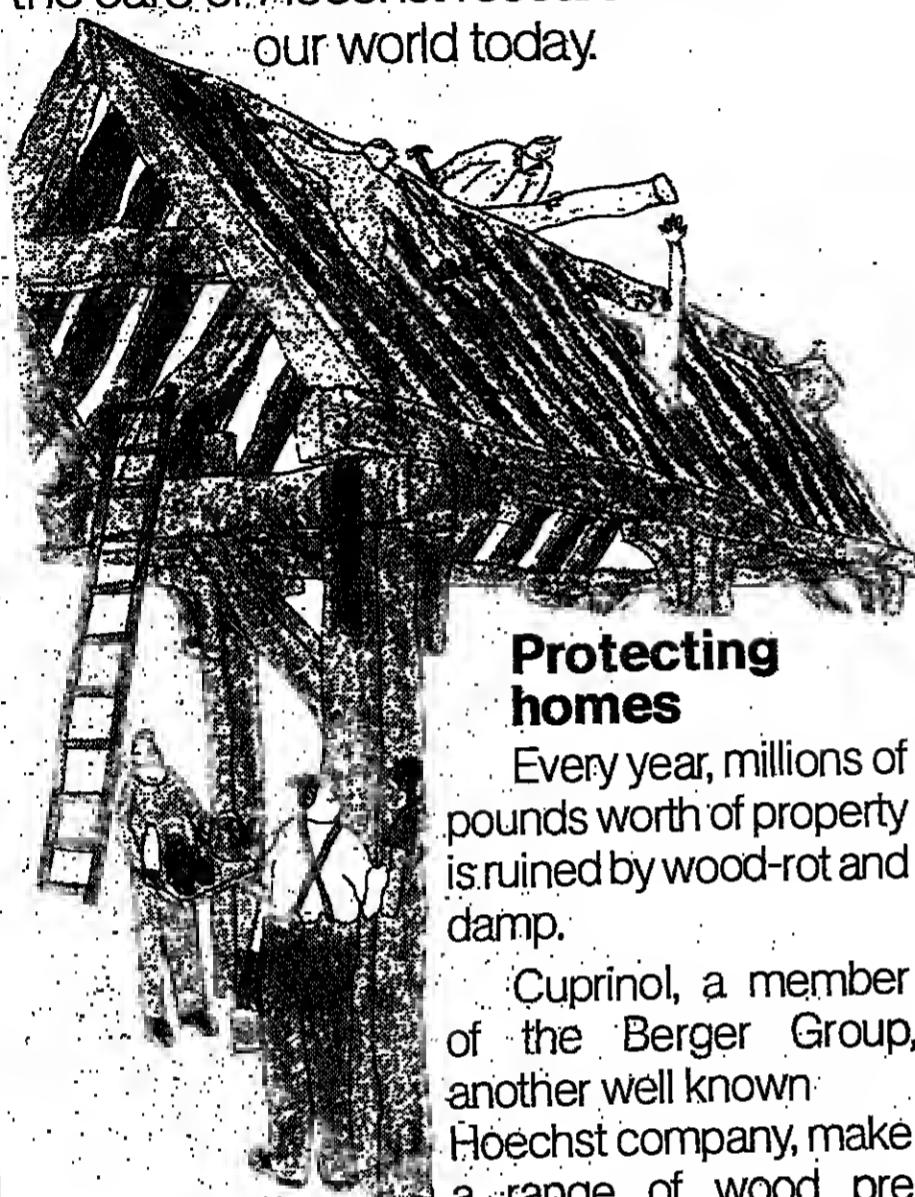
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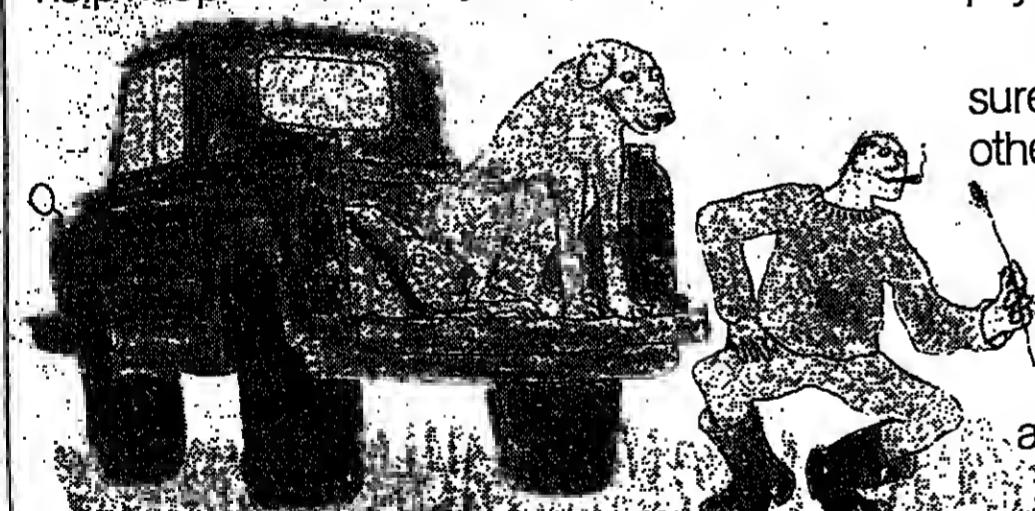
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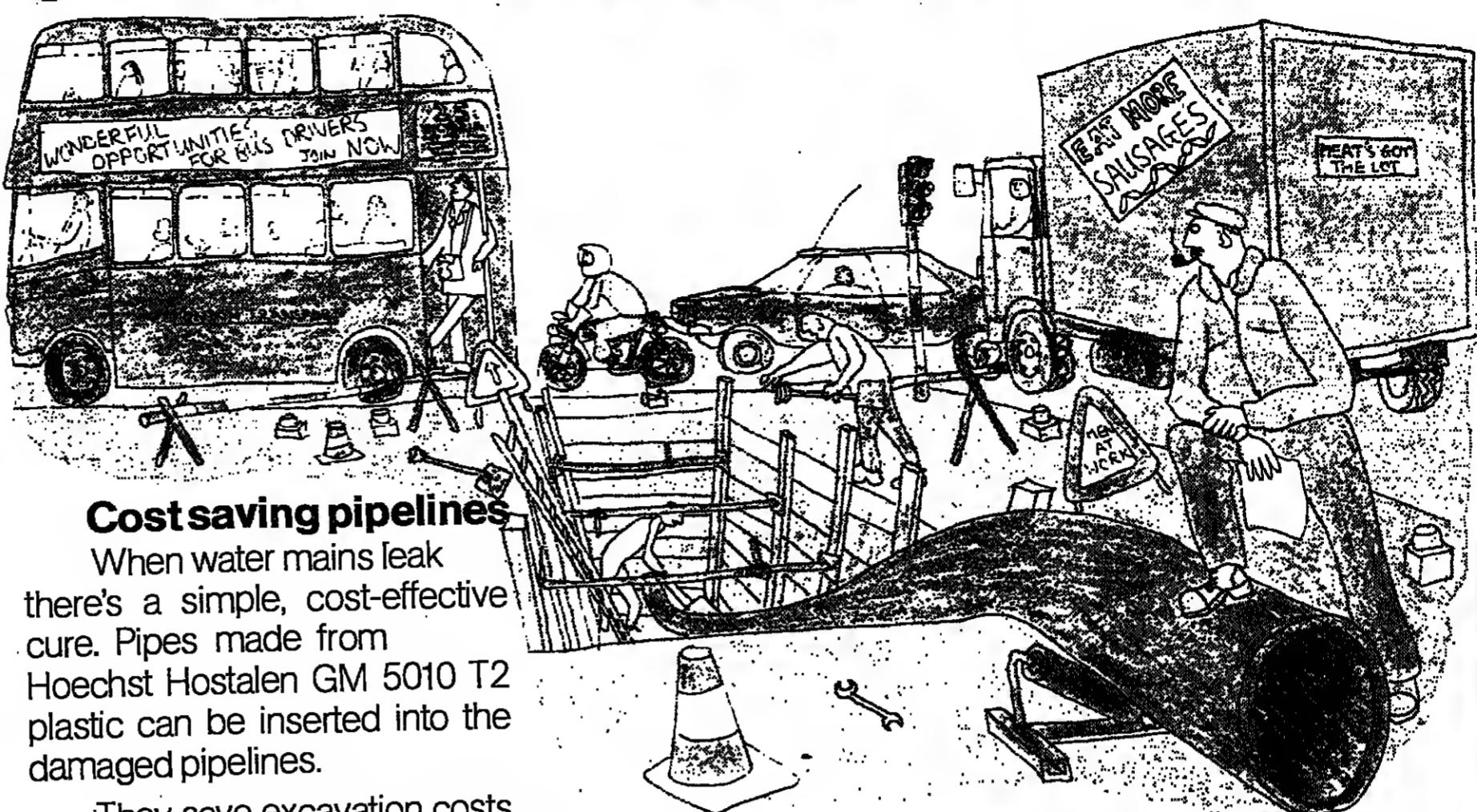
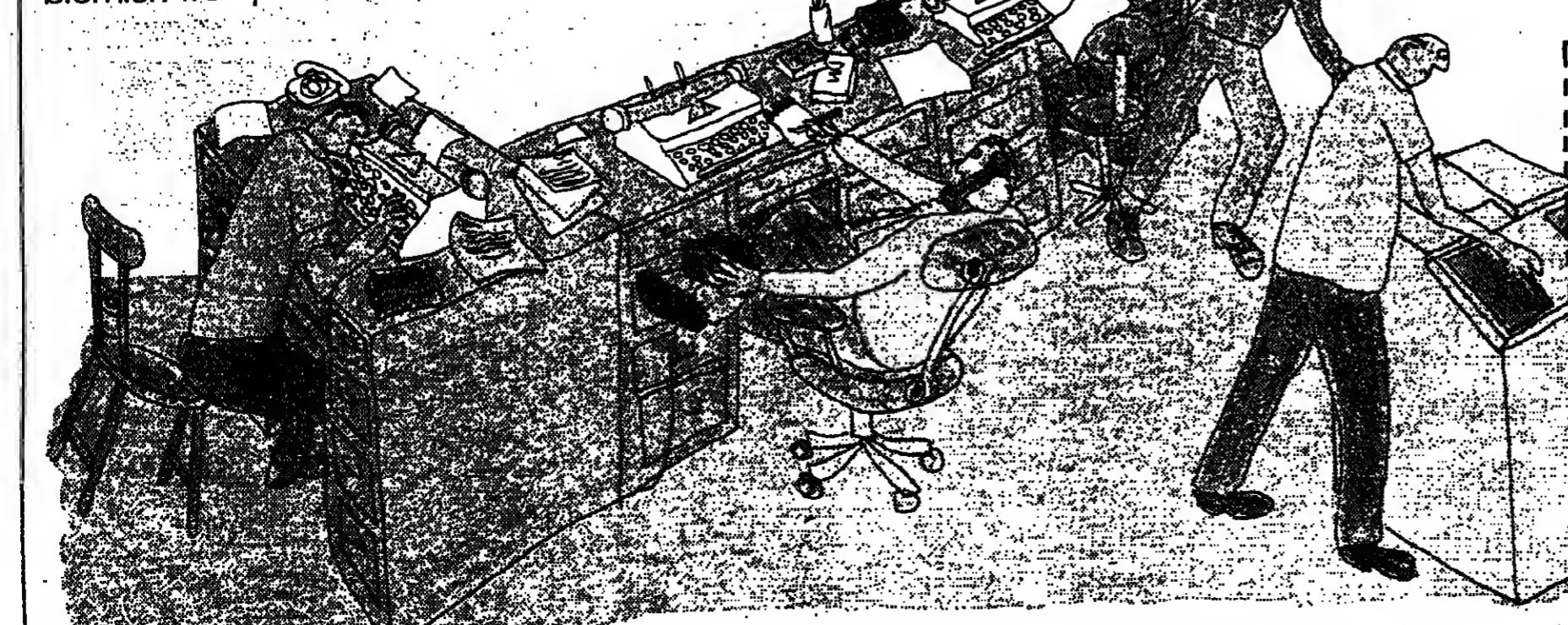
Cuprinol, a member of the Berger Group, another well known Hoechst company, make a range of wood preservatives and damp proofing products which prevent all forms of rot and insect attack and help keep the home dry and safe to live in.



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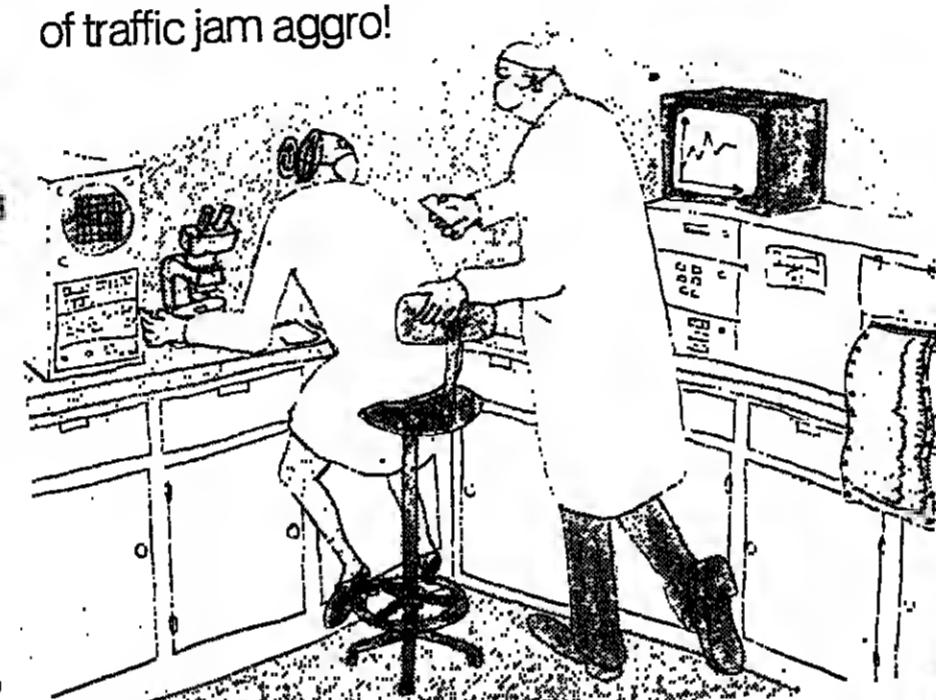
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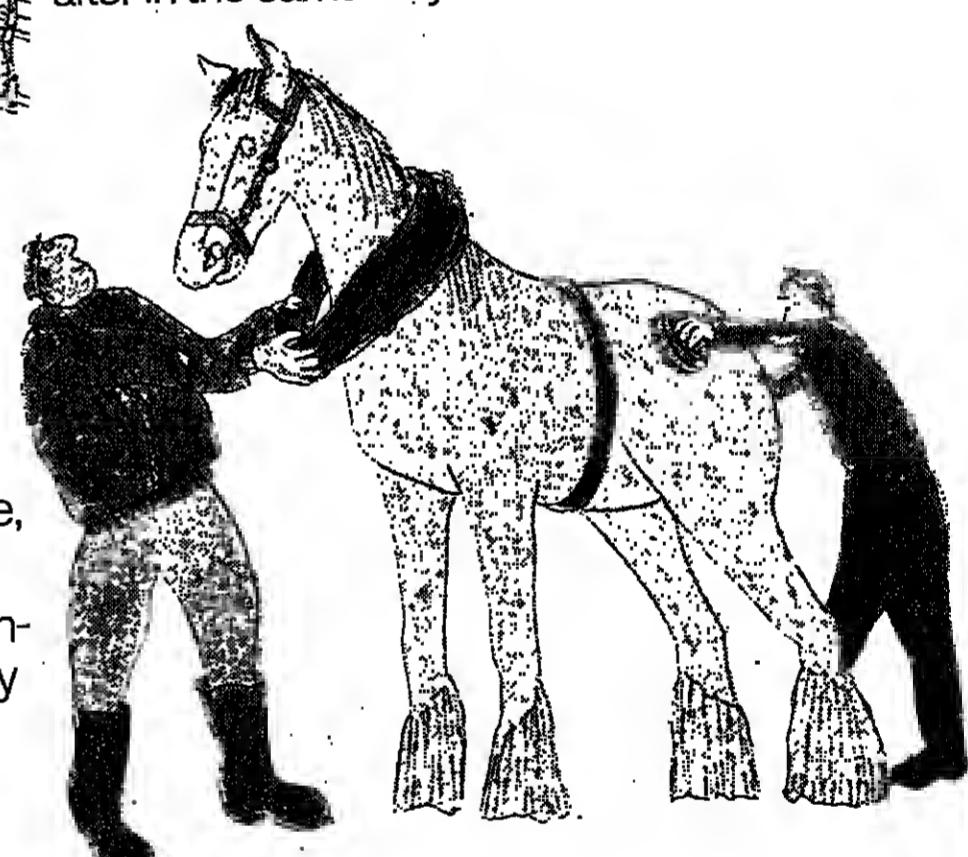
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UK NEWS

'Civil Service pension costs under-estimated'

BY ERIC SHORT

THE GOVERNMENT Actuary, Mr. Edward Johnston, has seriously under-estimated the cost of providing the index-linked pensions paid to civil servants, claims the Centre for Policy Studies, the Conservative Party's "think tank".

This attack was made by the centre in its evidence to the inquiry into the value of pensions which was set up by the Prime Minister to examine the index-linking of Civil Service pensions. The inquiry is chaired by Sir Bernard Scott, former chairman of Lucas Industries and a director of Lloyds Bank, Boots and Thomas Tilling. The evidence was prepared for the centre by a committee under the chairmanship of Mr. John Chown, an international tax consultant.

The Civil Service pension scheme is non-contributory and operates on a "pay-as-you-go"

Mr. Chown's committee is

system. The cost of each year's pension payments is made from general taxation. The pensions are automatically linked with the Retail Price Index. The salary levels of civil servants are adjusted to allow for the cost of their pension and the Government Actuary's task is to calculate the overall deduction, comparing the Civil Service scheme with other public and private pension schemes.

In making such calculations, Mr. Johnston has to make several assumptions, including the rate of investment return and the future rate of price inflation. He has assumed that over the long term—defined as at least the next 30 years—the pension funds will be 3 percentage points above the rate of price inflation.

Mr. Chown, in presenting the study, questioned whether the Government Actuary was equipped to make these investment assumptions, since he was not involved in day-to-day dealings with investments.

Row over lost plutonium pins

BY DAVID FISHLOCK, SCIENCE EDITOR

THE United Kingdom Atomic Energy Authority admitted yesterday that it mislaid two fuel pins containing plutonium removed from one of its reactors at the Dounreay Nuclear Power Development Establishment Caithness.

It said that their loss could be accounted for as stock keeping errors.

The admission came after a BBC television Panorama investigation, screened last night, said that the pins had been lost.

UKAEA reacted strongly last night to the BBC's showing a preview to the Press yesterday. It said that the BBC had refused to show it to the Authority.

Mr. David Steel, the Liberal

Leader, said the losses were "very very serious" and called for a Ministerial statement in the Commons.

UKAEA said that the total amount of plutonium was 35 grams, just over an ounce. The plutonium was in the form of a ceramic, welded into fine tubes of stainless steel.

Mr. Cliff Blumfield, director of the Dounreay establishment, said that he was satisfied that the missing pins had never left the site, but were almost certainly sent inadvertently to the chemical reprocessing plant at Dounreay, and dissolved with many hundreds of similar pins.

According to UKAEA both fuel pins came from the experimental reactor at Dounreay, which was closed in 1977. The one lost in 1976 was an experimental pin containing 25 grams of plutonium and 140 grams of highly enriched uranium.

The pin was in the reactor for only one day, and therefore acquired very little radioactivity. This made the search for its whereabouts much more difficult when the loss was discovered three months later.

Both the Department of Energy and Euratom, whose nuclear inspectors have kept check on Dounreay since 1973, were informed of the loss, and of UKAEA's conclusion that the pin was dispatched in error to the reprocessing plant.

OBITUARY

Sir Cyril Kleinwort

SIR CYRIL KLEINWORT, former chairman of Kleinwort Benson, the City merchant bank, and the related holding company Kleinwort Benson Lonsdale, died yesterday. He was 75.

Sir Cyril was chairman of the merchant bank between 1966 and 1971. He was chairman of KBL from 1968 to 1977, during which period the bank expanded rapidly to become recognised as the largest of the City accepting houses in balance sheet terms.

Sir Cyril was knighted in 1971 for his services to the City. He was the first chairman of the City's Committee on Invisible Exports, and died that post from 1968 to 1975.

Eaton Axles is to close its plant at Darlaston, West Midlands, over the next six months with the loss of 443 jobs.

The company also said yesterday there would be a further unspecified number of redundancies at its other plant at Aycliffe, Co. Durham.

Eaton Axles is a subsidiary of the U.S. group Eaton Corpora-

tion, but the privately-owned British group Rubery Owen has a 25 per cent holding.

Eaton Axles incurred a £1m pre-tax loss last year and the deficit would be greater this year, the company said.

The company, which recently announced first half losses of nearly £1m, will also close four of its 24 depots and is considering the closure of four others. At least 300 of its workforce of 900 will be made redundant.

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Backing the small man rated as top issue

BY JOHN MOORE

LLOYD'S of London insurance brokers are seeking major changes to proposals prepared by Sir Henry Fisher for improved self-regulation within Lloyd's.

The Lloyd's Insurance Brokers' Committee, in a letter to Mr. Peter Green, Lloyd's chairman, has recommended an important amendment to the draft Bill implementing main proposals of the Fisher recommendations, and has listed 15 other reservations to the Fisher report.

The Bill, as drafted by the Fisher working party, provides for creation of a 25-strong Council of Lloyd's with wider statutory and regulatory powers than the present 16-man ruling Lloyd's committee.

The rule-making powers of the 18,552 private members of Lloyd's would pass to the new council.

There were differences between the groups in their attitudes on particular issues. For example, while trade union reform was rated second overall it was placed fifth by trade union leaders and fourth by MPs. The sample of MPs was evenly balanced between the two major parties.

Somewhat surprisingly, businessmen rated cuts in company tax lowest on their preferences, though this may reflect the small amount of corporation tax being paid by many groups. Cuts in personal direct tax were also low on almost all lists.

The biggest contrast was in attitudes towards public spending—an issue rated highest by businessmen and lowest by trade union leaders.

The survey also revealed general agreement that inflation is the most important problem facing Britain during the next five years, followed by industrial investment, unemployment, and poor management practices.

Inmos near factory site decision

BY ROBIN REEVES, WELSH CORRESPONDENT

A SITE in Cardiff or Newport, Gwent, looks virtually certain to be the location for Inmos's £25m UK manufacturing facility. A final decision is expected in a fortnight.

The Government agreed in July to give a further £25m to Inmos through the National Enterprise Board, on condition it established its factory unit in South Wales for the mass production of advanced electronic components. The company has examined a number of possible locations in the region.

The investigations have included one site even further west of Inmos's Bristol headquarters, near Port Talbot,

where nearly 6,000 jobs are being shed at the British Steel Corporation's plant. But this has been rejected.

Inmos is understood to have narrowed the choice to the Welsh Development Agency's Forest Farm estate on the M4 motorway in north Cardiff or a 30-acre site owned by Newport Council at Duffryn, beside Tredegar country park and the Government's business statistics office.

Cardiff is cautiously optimistic it will come out on top. While Newport is 10-15 minutes nearer to Bristol on the M4, the site requires some preparation

before building could begin. It also does not have the prestige and amenities of the Welsh capital.

At Cardiff, Inmos would be required to share the site with the recently established offshoot of the Radiochemical Centre, but building could begin immediately. The WDA has already spent more than £1m preparing the land for development and laying on services, which could reduce the period required for building by up to four months compared with Newport.

Inmos intends its Welsh production facility to be in business by mid 1982.

Hazel Duffy looks at BSC's Redcar blastfurnace

Market fears will remain when furnace troubles are solved

THE BRITISH STEEL Corporation's blastfurnace at Redcar, Yorks, which has been closed because of technical problems, was designed and conceived in the days when steel was in short supply.

The emphasis then was on investment in bigger and better integrated steelworks. By the time the blastfurnace was commissioned in October 1979, the whole market for steel and for British steel in particular, had changed dramatically.

The economics of Redcar, however, remain the same. In order to achieve the economies of scale, the furnace needs to make more than 50,000 tonnes of iron a week. That means orders for the plant's steel products have to be sufficient to justify an iron make of that amount.

BSC has tried to load Teesside with orders, but this has not been easy during the summer months when demand has been depressed and post-strike imports have continued to pour in.

BSC's Teesside division admits that the level of demand for steel bars affected the amount of iron that it has been able to make since the steel strike ended at the beginning of April.

The immediate problem at the Redcar furnace, however, is technical. As part of routine, the furnace is taken off-blast for one day every three weeks in order to carry out maintenance checks.

But, on two occasions since April, the period "off-blast" has been longer than this to carry out unscheduled repairs.

The result was that the furnace's temperature fell below the necessary level and the tuyeres at the base of the cylinder, through which pre-heated air is blown, became blocked. The burden materials (sinter, coke, etc.), in the furnace were unbalanced, and it was found necessary to burn more coke.

For the past 10 days, therefore, the Redcar furnace has not been producing enough iron to keep steelmaking going at a sufficiently high level. At the weekend, the decision was taken to lay off the steelmaking workforce at nearby Lackenby until the problems have been solved.

Some iron was made yesterday, and BSC hopes it can return to normal working by the end of the week.

The Redcar problems will reinforce the arguments of critics who believe that steelmaking is better suited to smaller, more flexible plants than the huge integrated plants which formed the basis of BSC's investment plans during the 1970s.

At Redcar, where the furnace has a 10,000 tonnes a day capacity and is the largest in Europe, the philosophy was pursued to the extreme.

However, taking Redcar off

blast has not caused any embarrassment over steel supplies. For the past few months, stocks of steel sections, coil, billets, and other products have been built up on Teesside. Whether this was because orders have fallen short, or because it was necessary to load the blastfurnace in order to justify it in economic terms, is not at this stage clear.

BSC argues that the process of bringing such large, sophisticated equipment on stream is almost certain to be accompanied by some problems.

In its last full week of iron making, the furnace produced 48,000 tonnes, a good figure.

The target is for 52,000 tonnes a week.

Given the competitive manufacturing levels agreed at Redcar before the furnace was commissioned—in contrast to the problem which dogged the commissioning of the smaller furnace at Llanwern three years ago—and BSC's insistence that it use cheap, high quality, imported coking coal in addition to British coal, the economics of the £400m Redcar iron complex looked good at the outset.

But, even last October, the sourness of the steel market was taking some of the edge off the celebratory opening of the furnace. Today, even when the technical problems are sorted out, the market problems remain to dog Redcar, and the rest of British Steel.

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Brokers at Lloyd's want Fisher proposals changed

BY JOHN MOORE

"it was no longer practical or expedient for ultimate control" of Lloyd's to rest with the members of Lloyd's at a general meeting.

The brokers seek to amend the Bill so that the private membership retains "longstop" powers over the council. Any new Act for Lloyd's should include provisions for members to be notified of possible changes in by-laws, they say.

Within two months of that notification, members of Lloyd's not working in the market, of whom there are over 15,000, and the working members, should have power to petition a meeting to ratify the council's by-law changes.

Mr. Douglas Lyon, chairman of Lloyd's Insurance Brokers' Committee, part of the British Insurance Brokers' Association, has said in the committee's letter to Mr. Green that "we regret that some of Fisher's comments on Lloyd's brokers give the impression that smaller firms are less secure."

New BBC arts series escapes cash cuts

BY ALAN FORREST

AFTER a summer of difficulties, the BBC yesterday announced an autumn schedule of television arts programmes costing between £3m and £4m.

Although there will be fewer music programmes—mainly because of the two-month musicians' strike which wrecked the Promenade Concerts—officials were relieved that threatened economic cuts had not seriously hit their autumn schedule, though the future is still uncertain.

The new package is the answer by Mr. Humphrey Burton, arts department head, to accusations of falling standards and "growing philistinism" at the BBC.

He said yesterday: "We took a lot of stick in the summer and this made me mad. In fact, there has been no retreat in our commitment to the arts. We are not complacent, but we are proud of our achievements."

The package includes BBC 1's *The Best of British*, ten half-hour films featuring a different arts or entertainment personality. Stars include songwriter Elton John, theatre director Peter Gill and jazz pianist George Shearing. Rudolf Nureyev will introduce *Invitation to the Dance* and there will be a major film series, *The Greeks*.

BBC 2 plans include *The Shock of the New*, eight one-hour programmes on modern art, a regular Sunday night music programme and a monthly opera on Saturday nights, including live relays of *La Traviata* from New York's Metropolitan Opera House and John Schlesinger's new production of *The Tales of Hoffmann* from Covent Garden.

Many Liberals opposed to talks on alliance

BY JOHN HUNT, PARLIAMENTARY CORRESPONDENT

THE POSSIBILITY of a pact between the Liberals and dissident social democrats from the Labour Party met with strong hostility from Liberal MPs and delegates gathering in Blackpool last night for their annual conference.

Mr. David Steel, the Liberal leader, wants to keep his options open in the event of a new centre party being formed next year by Mr. Roy Jenkins, the former Labour Chancellor of the Exchequer. But he will find it extremely difficult to maintain this policy in the face of the widespread opposition apparent in his party.

Speakers in the main Liberal policy debate on Friday will be looking for two assurances from Mr. Steel:

1—that he is not preparing for some kind of Liberal merger with any new social democrat grouping that might emerge; and

2—that he is not prepared to enter into a full scale electoral agreement whereby Liberal candidates would stand down in constituencies where the social democrats fielded candidates.

When Mr. Steel makes his major conference speech after the debate, delegates will expect him to explain where he stands on the issue.

There was a feeling among many Liberals at Blackpool that Mr. Steel's flirtation with Labour right-wingers had damaged the party's chances at a time when it should be gaining support as a result of public disenchantment with the Government's economic policies.

Mr. Richard Wainwright, MP for Colne Valley and the party's economics spokesman, said that the idea of a new centre party was never on. But he would be prepared to see the Liberals entering into a loose parliamentary coalition in the Commons with any social democrats who were elected under their own steam.

In the North where Labour was the main opponent of the Liberals in many constituencies, an electoral arrangement with social democrats would not be tolerated.

Mr. David Penhaligon, MP for Truro, said he was "fed up" with Mr. Steel banding out in

vitations to social democrats who had no intention of joining the Liberals. He thought that Mr. Steel should make it clear that an independent Liberal Party would be fighting the next election, whatever happened about the formation of a fourth party of the Centre. Like many Liberals, he maintained that a new grouping under Mr. Jenkins was in any case a "farcical non-runner."

He felt that the Liberals would be reaping the benefit of Conservative unpopularity within the next 18 months and should concentrate on preparing to win any by-elections that might arise. Social democrats would then be welcome to join the Liberal Party.

Lord Beaumont of Whitley, a former president of the Liberal Party, said it would be "absolutely disastrous" for the Liberals to be seen playing "footsy-footsy" with Mr. Jenkins.

"He presents exactly the wrong kind of image for us," said Lord Beaumont.

Motion on jobless strengthened

A SCHEME to reduce unemployment by raising £2bn by index linked national savings, for spending on capital projects such as roads and schools, will be put before the Liberal assembly in Blackpool tomorrow, writes John Hunt.

The motion was drawn up yesterday by the Party steering committee after complaints that the existing motion on unemployment was too weak.

The new resolution condemns the Government for its "insensitive and negative" attitude to the 2m unemployed. It says the Government is indifferent to

the demolition of the industrial base by a rising tide of bankruptcies.

Mr. Richard Wainwright, the Liberal economics spokesman, said last night that the resolution should encourage the more progressive elements among Conservative MPs and in the Cabinet who want Mrs. Thatcher to adopt a more flexible and imaginative approach to unemployment.

It will encourage the employers' national insurance charge for all employees under 21, and defer payment of PAYE for employers "for whom payment would be the final cause of insolvency."

The motion seeks to abolish the employers' national insurance charge for all employees under 21, and defer payment of PAYE for employers "for whom payment would be the final cause of insolvency."

The motion also calls for an additional £750m in public expenditure for industrial retraining and the expansion of advisory services for small and medium-sized business. It wants a sharp cut in interest rates to reduce the uncompetitive value of the pound and a special differential interest rate for investment in industry and infrastructure.

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SOME GOOD BUSINESS NEWS FOR A CHANGE.

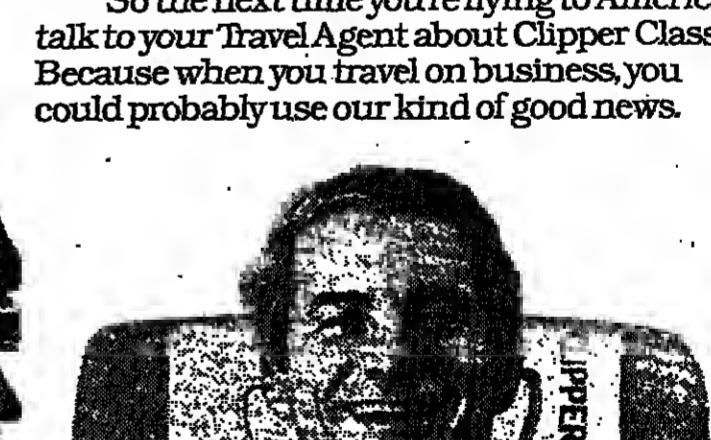
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APPOINTMENTS

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Opportunity for increased earnings and responsibilities in the short term

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AMSTERDAM

ACCOUNTANT

£10,000—£12,500

(Maximum Total Deductions 33%)

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Owing to expansion, applications are invited from candidates aged 24-30, C.A., A.C.A., A.C.C.A. or A.C.M.A. (part qualified A.C.A.'s will be considered who have closely related experience), who have acquired several years commercial or banking experience. The successful candidate will be responsible for circa 25 client companies covering all accounting work, statutory returns and correspondence. Essential qualities include the ability to set priorities and liaise effectively with Clients. Knowledge of a European language will be an advantage though not essential. Initial remuneration negotiable £10,000-£12,500. (including holiday allowance, thirteenth month bonus and annual bonus), plus house loan scheme, non-contributory pension, relocation and home leave expenses. Applications in strict confidence under Reference A023/FT. to the Managing Director.

ACCOUNTANCY AND LEGAL PROFESSIONS SELECTION LIMITED, 35 NEW BROAD STREET, LONDON EC2M 1NH
TELEPHONE: 01-588 3588 or 01-588 3576. TELEX: 387374

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D. Bryan Andrews Associates,
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The Department of English and Centre for European Languages and Translation at Riyadh University have the following opening for the Academic Year 1980-81 beginning 23 September, 1980.

A English Language Instructors with ESP/TEFL qualification and experience.

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C Two full time openings in English Linguistics.

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Instructors: MA or BA with teaching experience. Assistant Professor: PhD in hand.

Salary range: SR 3800/ to SR 9000 per month

Benefits include yearly round trip tickets and furnished housing. Two months paid vacations per year. One year contract renewable.

Please submit resume along with copies of certificates, transcripts and references quoting ref. K/S/1.

Attn: M. D. Whiteley
Saudi Arabian Educational Office
29 Belgrave Square
London SW1X 8QB
Tel: 01-245 9944, Ext. 56

FINANCIAL ANALYST

An international oil trading company in Knightsbridge invite applications for this position. Applicants should have good commercial experience; a good knowledge of bookkeeping and an understanding of international trade. An analytical mind and pleasant manner also important. Knowledge of German and/or French an advantage. Top salary, lvs and bonus scheme.

Please send CV and, if possible, daytime telephone number to:
Box A7267, Financial Times,
10 Cannon Street, EC4P 4BY

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(Maximum Total Deductions 33%)

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Owing to expansion, applications are invited from candidates aged 24-30, C.A., A.C.A., A.C.C.A. or A.C.M.A. (part qualified A.C.A.'s will be considered who have closely related experience), who have acquired several years commercial or banking experience. The successful candidate will be responsible for circa 25 client companies covering all accounting work, statutory returns and correspondence. Essential qualities include the ability to set priorities and liaise effectively with Clients. Knowledge of a European language will be an advantage though not essential. Initial remuneration negotiable £10,000-£12,500. (including holiday allowance, thirteenth month bonus and annual bonus), plus house loan scheme, non-contributory pension, relocation and home leave expenses. Applications in strict confidence under Reference A023/FT. to the Managing Director.

ACCOUNTANCY AND LEGAL PROFESSIONS SELECTION LIMITED, 35 NEW BROAD STREET, LONDON EC2M 1NH

TELEPHONE: 01-588 3588 or 01-588 3576. TELEX: 387374

UNIVERSITY OF BATH RESEARCH OFFICER IN ACCOUNTING

Required for joint School of Management/Regional Health Authority investigation into controls over capital expenditure programmes. Applications welcome from accountants, University degree desirable, but not essential for person with appropriate post-qualifying experience. Appointee may submit work for a higher degree. The post commences 2 January 1981 (earliest convenient date) at a salary up to £10,500 according to qualifications and experience. Further particulars and application forms from the Personnel Officer, University of Bath, Bath BA2 7AY, quoting reference number 80/123. Applications to be received by 25th September, 1980.

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ACB VII

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Chief foreign exchange and Eurocurrency deposit dealer required by a Bahamian bank forming part of a multinational banking group centred in Paris. This senior specialist appointment will involve responsibility for the smooth operation of all existing and projected money market functions. The Chief Dealer's responsibilities will include the daily supervision of an active dealing room, where upwards of ten currencies are regularly traded. In addition the position will include responsibility for the development of new areas of business and the supervision of the continued professional development of the existing team of deposit and foreign exchange dealers.

Salary, which is negotiable, will be commensurate with experience and qualifications. Although age is not a limiting factor, the ideal candidate will be in his early 30's and will have had a minimum of five years' Eurocurrency deposit and foreign exchange dealing experience while acting for a major banking organization in a major money centre. The successful candidate will almost certainly be a member of the International Forex Association. Previous general banking experience would be a distinct advantage, as would knowledge of a second major language.

Qualified candidates are invited to submit written résumés of educational background, qualifications and experience (to include details of actual currency trading exposure) to the Personnel Manager, SFE Banking Corporation Limited, c/o London Representative Office, 52 Cornhill, London EC3V 3PK.



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COMPANY NOTICES

NOTICE IS HEREBY GIVEN

NOTICE IS HEREBY GIVEN that on

13th September 1980 to 29th September

1980, both dates inclusive, T. L. BALDWIN,

Secretary,

Battebridge House,

Tolley Street,

London SE1 2RJ,

Charter Consolidated

LOAN OF FF 100,000,000

The FF 5,000,000 redemption instalment due October 1, 1980 has been

met by purchases to the Stock Exchange.

Outstanding amount after October 1,

1980: FF 95,000,000.

The Fiscal Agent:

BANQUE POUR LA FRANCE ET DES

PAYS-RAS DE LUXEMBOURG

GRAND-DUCHÉ DE LUXEMBOURG

CITY OF VALPARAISO

NOTICE IS HEREBY GIVEN that on

25th September 1980 to 27th September

1980, both dates inclusive, R. G. ROSE,

Secretary,

Bank of Valparaíso S.A.

Avda. 10 de Septiembre 1000

Valparaíso, Chile.

Charter Consolidated

LOAN OF FF 100,000,000

The FF 5,000,000 redemption instalment due October 1, 1980 has been

met by purchases to the Stock Exchange.

Outstanding amount after October 1,

1980: FF 95,000,000.

The Fiscal Agent:

BANQUE POUR LA FRANCE ET DES

PAYS-RAS DE LUXEMBOURG

GRAND-DUCHÉ DE LUXEMBOURG

FINA ANGOLA, S.A.R.L.

Head Office in Luanda

Capital FF 200,000,000.00

EXTRACTION OF GOLD

IN ACCORDANCE WITH THE

COMMERCIAL AND FINANCIAL

COMMISSIONS OF THE REPUBLIC OF

ANGOLA, S.A.R.L. invites the

shareholders of the Company

to attend the meeting to be

held on the 28th of October

1980 at 11 a.m. at the Head Office

of the Company in Luanda, Angola.

At the meeting the shareholders

will be informed of the

amount of the dividends

and the date of payment.

At the same time the

shareholders will be informed

of the amount of the

shares to be issued.

At the same time the

shareholders will be informed

of the amount of the

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The range of international services no other bank offers:

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Short-term and fixed rate medium-term finance covered by ECGD guarantees. Negotiating or discounting bills, Acceptance credits, Eurocurrency finance, Export factoring, International leasing and Instalment finance.

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Technical Page

EDITED BY ARTHUR BENNETT AND ALAN CANE

• COMMUNICATIONS

Growing market for data transmission

IN 1978 the newly formed association of 17 Post and Telecommunications (PTT) authorities in Europe, Eurodata, set up essentially to establish facts about telecommunications in Europe and make forecasts, commissioned Logica to make a study of data transmission to the year 1987.

The London company has just completed its findings and they are to be made available in an edited commercial form to any interested organisation at a cost of £30,000. Particular aspects will be published in modular form at proportions of this cost.

Logica forthrightly admits that the market for data transmission has grown twice as quickly as was predicted in a similar study made in 1972 but asserts that the available data is now much more positive and comprehensive so that, coupled with better forecasting techniques, the new predictions are liable to be rather more accurate.

The present position is that almost a million people are now utilising data communications on a daily basis, yielding about \$2bn of revenues for the European PTTs.

But by 1987 it is predicted that this will have risen to 6m users and this means, says Logica, that the PTTs will have to install modems, leased circuits and associated facilities at about four times the rate they do today, with correspond-

ing increases in purchases from their suppliers and a major increase in the manpower currently employed in data communications.

Generally speaking larger users are liable to go on using dedicated data lines (circuit switching) but in the public sector growth in circuit switching will be outstripped by packet working so that by 1987 the ratio will be two to one. But the whole of the public network business, now forming only 2.3 per cent of all data connections, will constitute 30 per cent by 1987 according to the survey.

Some 450,000 new public network ports and connections will have to be installed by then. In addition, another 600,000 leased circuit connections will be needed for the heavy duty users.

By 1987 telephone usage in relative terms will have risen very little and in view of the intensive use of data terminals in comparison with phones the revenue significance of data transmission to the PTTs will be very marked.

• SAFETY

Shows truck location

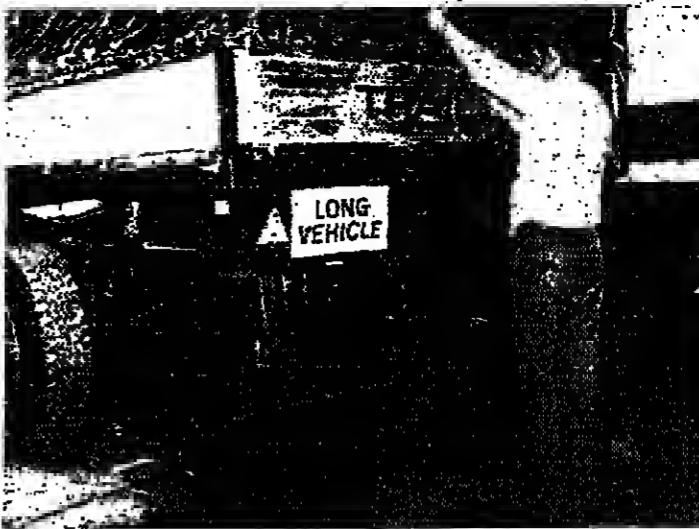
DEVELOPED BY Hydraulics and Pneumatics of Wolverhampton in conjunction with the National Coal Board is the Rovir haulage monitor which enables the operator to see at a glance the position of a haulage train in mine drifts.

An analogue display gives an immediate approximate position in relation to diagrams showing both the roadway plan and its elevation.

Data is obtained for the displays by measuring the speed and distance travelled from a sensing head mounted on the haulage surge wheel (normally very near to the driving position). There is no need for a series of limit switches to be fitted to the track.

The unit, which also has lamps to show overspeed, hazards and so on, can operate in drifts up to 3,000 yards long, is intrinsically safe and can be operated above or below ground. It has adjustable menu/materials settings and a digital display which shows precise distance travelled.

More from the company at Unit 6, Wulfrun Trading Estate, Wolverhampton, WV10 6HY (0902 773411).



Two of the latest developments by Rubery Owen (Pressings and Fabrications) are a carbon fibre/glass fibre leaf spring for commercial vehicles and an under-ride protection unit. The leaf spring (shown on the left undergoing a test) is stated to provide a weight saving of well over 60 per cent. It is manufactured as a hybrid layered composite of glass fibre and carbon fibre and each end has an integral steel bracket

with "eyed" location collars. The under-ride device (shown on the right) is designed for vehicles with gross weights between 16 and 32 tonnes. In the event of a collision at the rear the device deflects and reduces the impact. It will withstand an impact of 10 tonnes and return to its normal operating position afterwards.

• DATA PROCESSING

Records flexible working hours

MADE BY Benzing in West Germany and now to be supplied by GEC company Reliance Systems in the UK is flexible working hours recorder called Redacomp.

All the employee has to do is insert a personalised plastic card into a wall-mounted unit every time he enters or leaves the premises. Any of several terminals in a building may be used and on versions equipped with displays the user will be able to record his presence or absence and also see the details of his hours worked to date.

Authorised absences — holidays, sickness, official trips —

can be entered into the system only and from units equipped with a printer lists of people absent, with an analysis of the reasons, can be obtained.

The system's programming allows part-time employees and occasionally employed people to be accommodated and in addition any overtime worked can be programmed to be recorded on a separate memory for later analysis.

Redacomp will also provide the complete time record of any individual, summary records of all employees and data in other formats as well.

Programming and alterations to the memory are carried out under a locked flap.

The system is available in two sizes. Depending on the amount of programming for different work schedules the two systems can accommodate up to 130 and 275 employees respectively. The system is thus aimed at the rather smaller organisation which could not justify the employment of some of the larger systems available.

Reliance Systems is at Turbells Mill Lane, Wellingborough, Northants, NN8 2RB (0933 225000).

• INSTRUMENTS

Finds surface cracks

THE ABILITY to set its own zero point automatically, regardless of the material, is the main advantage of an eddy current surface crack detector, Novalec 96c, put on the market by SI (Systems+Instrumentation).

This portable battery-operated unit works on the customary "disturbed tuned circuit" principle. Basically, the eddy current probe forms part of an accurately tuned circuit and also induces energy into the sample. With no sample defects the induction pattern is uniform as a scan is made with the probe, but a defect causes a reaction in the tuned circuit and the resulting change of current in the main oscillator gives a basis both for detection and measurement of crack depth.

The instrument measures 290 x 160 x 115 mm and weighs 2 kg. SI (Systems+Instrumentation) is at 31, Bridge Street, Pershore, Worcs, WR10 1AJ (03863 3317).

material under test can produce similar effects, the 96c is provided with a special circuit that is able to sense small changes from sample to sample and automatically re-set the instrument's meter to zero.

This unit also has the advantage that when the probe is above a defect, the reading is maintained until the probe is moved away. In addition, the response speed is very fast so that cracks are not likely to be missed in a relatively fast scan.

The instrument can be used, and has calibrations for non-ferrous, ferrous and austenitic materials. Audio indication of a detected flaw is provided, and a neon lamp indicator.

The instrument measures 290 x 160 x 115 mm and weighs 2 kg. SI (Systems+Instrumentation) is at 31, Bridge Street, Pershore, Worcs, WR10 1AJ (03863 3317).

• MATERIALS

Conveyor repairs

MATERIALS, accessories and simple tools needed to repair conveyor belts quickly are contained in a kit now being marketed by Devon, Station Road, Theale, Reading, Berks RG7 4AB (Reading 302304).

The repair material is a urethane compound branded Flexane BRK which when applied does not require heat or pressure. It is simply mixed and trowelled into place.

When used for printing the machine's output rate is 560 lines/min from a standard ASCII set of 128 characters, with two software selectable sizes.

At the push of a button a "quick look" plot can be obtained requiring only a quarter of the data rate to provide a reasonably detailed result, saving considerably on central processor time.

Interfaces are available for connection to most popular minicomputers and there is a software package consisting of Fortran and Assembly routines which allows the CPU to sort raw vector information and convert it to raster data for printing.

More from the company at Redcliffe Way, Bristol BS1 6NH (0272 211501).

• ELECTRONICS

Plots at high speed

NOW AVAILABLE from Benson Electronics is a 22 in electrostatic plotter able to work at 200 dots per inch and produce 13.2 sq ft of plotted material per minute.

This model 9222Q uses the Quadrascans writing head containing four offset rows of writing stylus rather than the conventional single or double row. In operation, each dot appearing on the paper overlaps adjacent dots by about 50 per cent giving very smooth lines and solid areas which are very black.

Resolution, horizontal and vertical is 200 dots/inch; the dot size is nine mils with a centre to centre dot spacing of five mils.

In the plotting mode the copy leaves the machine at up to 1.5 in/sec with a repeatability of 0.1 per cent and a maximum accumulated error of 0.2 per cent.

When used for printing the machine's output rate is 560 lines/min from a standard ASCII set of 128 characters, with two software selectable sizes.

At the push of a button a "quick look" plot can be obtained requiring only a quarter of the data rate to provide a reasonably detailed result, saving considerably on central processor time.

Interfaces are available for connection to most popular minicomputers and there is a software package consisting of Fortran and Assembly routines which allows the CPU to sort raw vector information and convert it to raster data for printing.

Other facilities include an external memory file which can hold up to 3,200 price look-ups (compared with the 465 in the register's internal memory) and a data collector to store information from the register on magnetic tape. Sweda is on 01-233 3090.



• RETAILING

Cashing in on new technology

THE HUMBLE cash register has moved a long way, thanks to microelectronics technology. Latest in the line of electronic cash registers comes from Sweda, with its L50 series.

On display at the Hardware Trades Fair at Olympia this week, the L50 series has a number of unusual features.

It can function as a stand alone electronic cash register or be used as a point-of-sale system providing, Sweda says, "consolidated trading and financial reporting, data collection and telecommunications".

The key to the Sweda system is what it calls a "consolidator." It is a manager's terminal with the ability to carry out transaction processing with up to 31 individual cash registers.

Sweda says: "The user can load programs and maintain files for all the registers from a single point and obtain a wide variety of management reports on subjects such as hourly sales, stock control and sales, assistant productivity. The information obtained can be displayed on a video screen or printed as hard copy."

Sweda argues that using the "consolidator" there is no need for a back office computer, and that the L50 series' costs substantially less than traditional point-of-sale systems.

There are three basic models: the L55-10 with 18 fixed and up to 22 keys which can be individually programmed; the L55-20 with 18 fixed and up to 34 programmable keys, and the L55-30 with 18 fixed and up to 54 programmable keys.

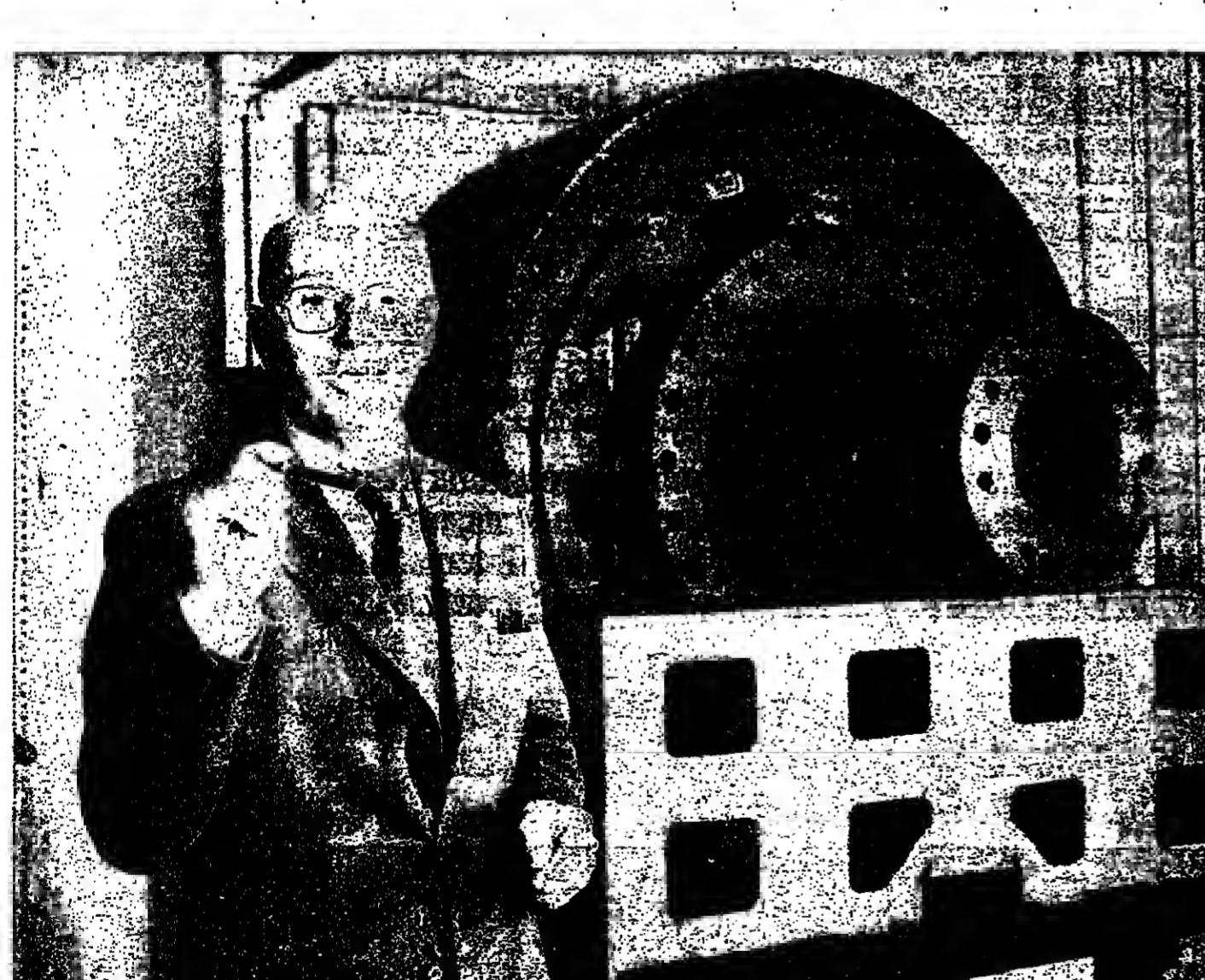
Other facilities include an external memory file which can hold up to 3,200 price look-ups (compared with the 465 in the register's internal memory) and a data collector to store information from the register on magnetic tape. Sweda is on 01-233 3090.

Norwegian system

A microcomputer-controlled internal communication system, the Pamex MPC, has been introduced into the UK market by Cable and Wireless UK Services, 82-83 Blackfriars Road, London, SE1 (01-633 9577).

Pamex MPC is a further development of the Stentofon Pamex system manufactured by Stentor A/S, Trondheim, Norway. Two orders each worth more than £100,000 have already received from Independent Television News and London Weekend Television, and the system is now being installed in their London studios.

The major advantage claimed for MPC is that changes, improvements and extensions can be simply programmed into the control panel without costly



"Accuracy and reliability we expected - but electricity saves us money too."

GEC Machines Limited (Large Machines Division) at Rugby wanted more effective curing of the insulating varnish that protects their wound products. So they replaced gas ovens with a single electric Barlow Whitney 350kW recirculating air oven.

Senior foreman WF Neubauer soon confirmed an expected major improvement in reliability and a more accurate control of temperature to ±3°C. He reported other benefits too:

"Compared with our previous system, electric convection drying is a safer, more

straightforward process that has reduced downtime and maintenance costs dramatically and given us greater control and flexibility." If you are considering alternatives to your existing drying and curing plant, get the facts on electric convection drying. Contact an Industrial Sales Engineer at your local Electricity Board. His free advice could save you time and money.

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The Electricity Council, England and Wales

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steady and predictable rate of growth has been maintained with both revenues and net income increasing at a compound rate of 30% per year. We've never seen a down quarter, and we've proven to be recession-resistant as any business could hope to be.

With an emphasis on quality and productivity, HCA is proving that private enterprise can operate hospitals more efficiently. By using the many resources available within its multi-hospital system, HCA achieves major cost

savings for each hospital and each community it serves.

And HCA's future holds even greater promise. In America's sunbelt and across the world.

For more information, write Victor L. Campbell, Vice President, Investor Relations, Hospital Corporation of America, One Park Plaza, Nashville, Tennessee 37203.

Hospital Corporation of America



FINANCIAL TIMES SURVEY

Tuesday September 9 1980

Swedish Steel and Engineering

Sweden's hopes of putting a sluggish economy into forward gear are pinned to its engineering industry. As steel producers resign themselves to shrinking markets, engineering companies display remarkable confidence in their ability to lead the way by exporting their sophisticated technologies. But the traditional machinery of social and economic consensus has seized up, and there are worrying questions over profits, investment, and Sweden's labour laws.

Exports are the key to recovery

By William Dullforce
Nordic Editor

SWEDEN'S industrial production is stagnating and its current account deficit this year will probably surpass 4 per cent of its gross national product. It will borrow between Skr 25bn and Skr 30bn (\$8bn to \$7.2bn) from international banks in 1980. But only a very small portion of the loans will go to expanding production; the bulk is being used to maintain consumption.

1979 was a relatively good year for Swedish industry. Export demand was strong, company profits recovered, and by March this year the engineering companies were operating

at 87 per cent of capacity. But Swedish industry today produces no more than it did in 1974. And after a 20 per cent increase in 1979, expected to be repeated this year, industrial investment will still be lower than in the 1974-75 period.

This is the situation with which the three-party, non-Socialist coalition Government of Mr. Thorbjörn Falldin is trying to grapple. It is an unusual situation for a country which less than a decade ago, could still justly claim to be among the world's industrial leaders and which still has remarkable technological resources and business skills.

Sweden has of course suffered together with the rest of the industrialised countries from the increases in oil prices—perhaps more than most, since imported oil supplies 70 per cent of its energy requirements. Sweden's traditional exports—iron and steel—have also felt the impact of competition from the newly industrialised countries.

Yet there is also a specifically Swedish problem. The economic and social machine which functioned so smoothly through the 1950s and 1960s has become clogged. The smothering effect of a swollen public sector on industrial enterprise is one instance often quoted.

A recent symptom was the industrial dispute in April and

May this year which involved some 800,000 in strikes and lock-outs. More evidence of malaise came in the summer, when the Government was forced to call an extraordinary session of the Riksdag (Parliament), in order to raise value added tax by a modest 1.5 per cent—a measure which are retarding the inadequate response to the accelerating current account deficit.

However one analyses the blockages and hitches in the current Swedish social machine which is retarding the industrial effort—and the Swedes have produced plenty of analyses of their own—one fact remains uncontested: Swedish engineering is crucial to the country's economy.

With the raw material supply restricting the growth of the pulp and paper mills, Sweden has for years been looking to the engineering industry for a bigger and bigger export contribution. It has become a truism to call it the engine of the

On the other hand, they are deeply concerned about finance, and most specifically about the difficulty of generating sufficient profit to keep pace with inflation and leave enough over for investment. Their worry is mirrored in the sluggishness with which investments have risen this year after the profit recovery of 1979.

One reason adduced for the sluggishness is that the profit recovery was insufficient. The average pre-tax return on equity among engineering com-

panies rose from 3.2 per cent in 1978 to 8.2 per cent last year, according to the annual survey conducted by the Swedish Engineering Employers' Association.

Mr. Aake Nordlander, the Association's managing director, comments: "The engineering industry had five years of declining earnings until 1979. We expect profits this year to be on roughly the same level as last and in an inflationary economy companies need to earn more. We estimate that the return on equity should average 12 per cent through a business cycle, if we are to get expansion."

On the day that his company reported a slide in its second quarter earnings Mr. Pehr Gyllenhammar, managing director of Volvo, the car and truck group and Sweden's biggest industrial concern, wrote in a Stockholm daily about the need for industrial expansion. On the day that his company reported a slide in its second quarter earnings Mr. Pehr Gyllenhammar, managing director of Volvo, the car and truck group and Sweden's biggest industrial concern, wrote in a Stockholm daily about the need for industrial expansion.

Investment had to be stimulated by improving company profitability, Mr. Gyllenhammar reiterated. This could be achieved by keeping wage increases low, by holding down public charges on company payrolls, by providing industrial loans on attractive terms and by maintaining favourable rules for depreciation of assets, he wrote. Mr. Gyllenhammar's article

reflected the dissatisfaction with the fumbling and indecision of the non-Socialist Government, which is widespread within the industry and without doubt a contributory factor to the current reluctance to invest.

Many business leaders feel that the Government badly mishandled the labour market crisis in the spring. It has been criticised for acting too late to end the slowdown, for contributing to a settlement which at best does not help industry's competitiveness, and for making tax and food subsidy concessions which it now has to claw back at the risk of provoking the trade unions into a militant mood before next year's income talks.

The Government cannot be loaded with all the blame for this year's industrial dispute and the subsequent 12 to 13 per cent rise in industry's labour costs. But it has failed to come through with the stimulus to industrial expansion it has been promising to make.

Particularly irritating for industry is the coalition's failure to do away with the double taxation on shareholders' dividend payments. This is regarded as a major impediment to a revival of the stock exchange and to the renewal of savers' interest for investment in company shares, which would allow companies to look to the market for more equity capital.

Professor Ulf af Trolle, who

has been employed as consultant by many Swedish and foreign companies recently pointed out that the Skr 25bn to Skr 30bn which Sweden will borrow abroad this year would be enough to buy up all the Swedish industrial and shipping companies at their current stock exchange valuation.

Doubt about the capacity of the present Government is only one of several psychological restraints on the engineering companies' willingness to invest in expansion. Others are deeper-rooted. One which

returns constantly in conversation with business leaders is the effect on working morale of the trade unions' so-called "solidarity" policy and the far-reaching benefits they have won

for their members.

Solidarity policy

The "solidarity" policy is based on the equal pay for equal work principle, which entails that workers in companies running at loss receive the same wages as those in profitable concerns. It also involves keeping minimum wage earnings so high that the differentials between skilled and unskilled work are eroded.

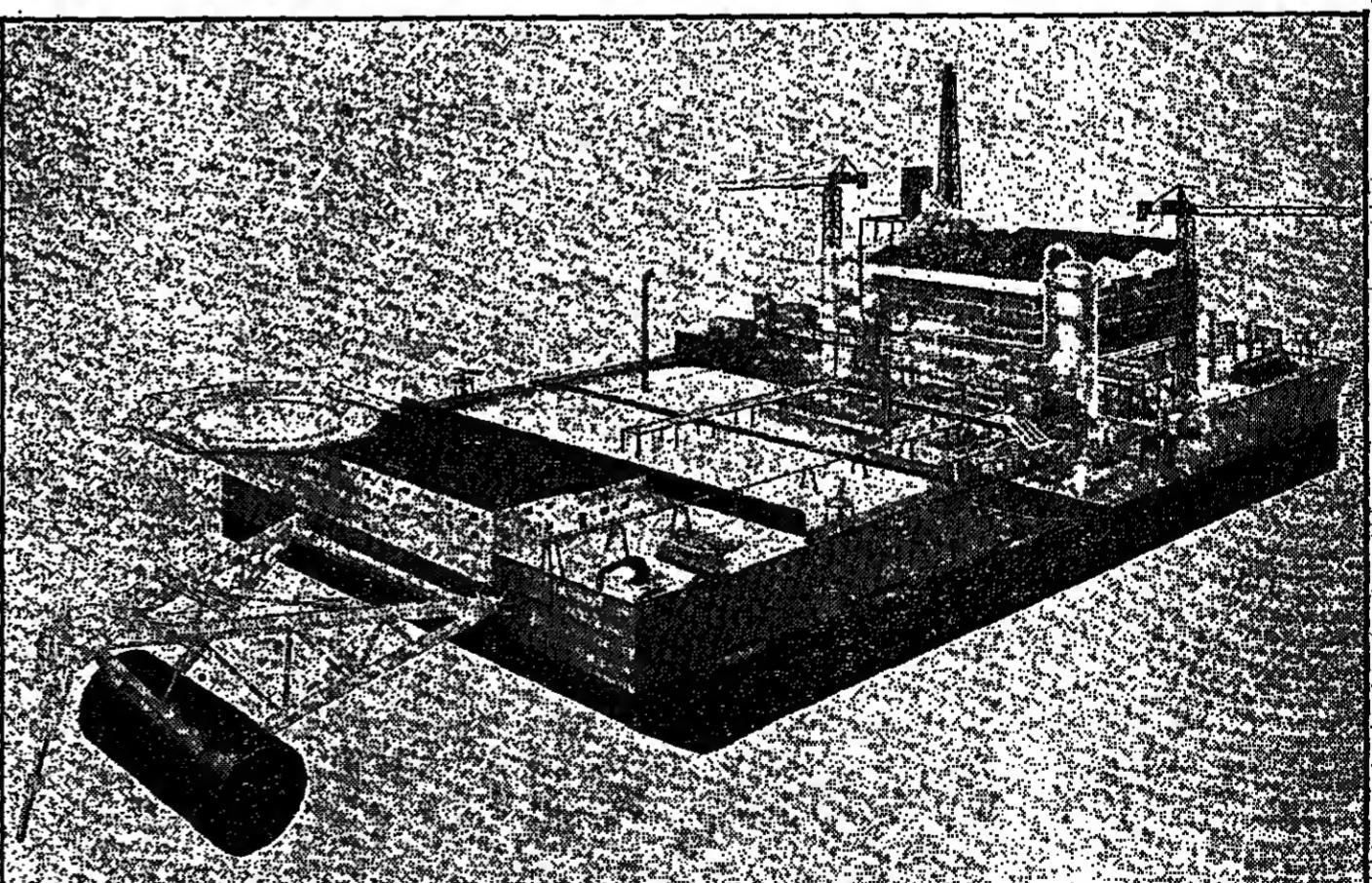
Even more dangerously, from the point of view of industry, the principle has been extended to the rapidly growing public sector. Many workers take advantage of the rights to study, go on union courses or stay at home with new babies which their union negotiators have won for them.

CONTINUED ON NEXT PAGE

Absenteeism is a growing problem in Swedish factories. On average, 17 per cent of employees are off work and some companies reckon that they must overstaff by 25 per cent in order to ensure regular production.

Recent research indicates that the absenteeism is not, as was thought, mainly due to workers unjustifiably exploiting sickness benefits, but to "legalised" absence from work. Many workers take advantage of the rights to study, go on union courses or stay at home with new babies which their union negotiators have won for them.

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SWEDISH STEEL AND ENGINEERING II

Industry's reconstruction threatens clash of interest

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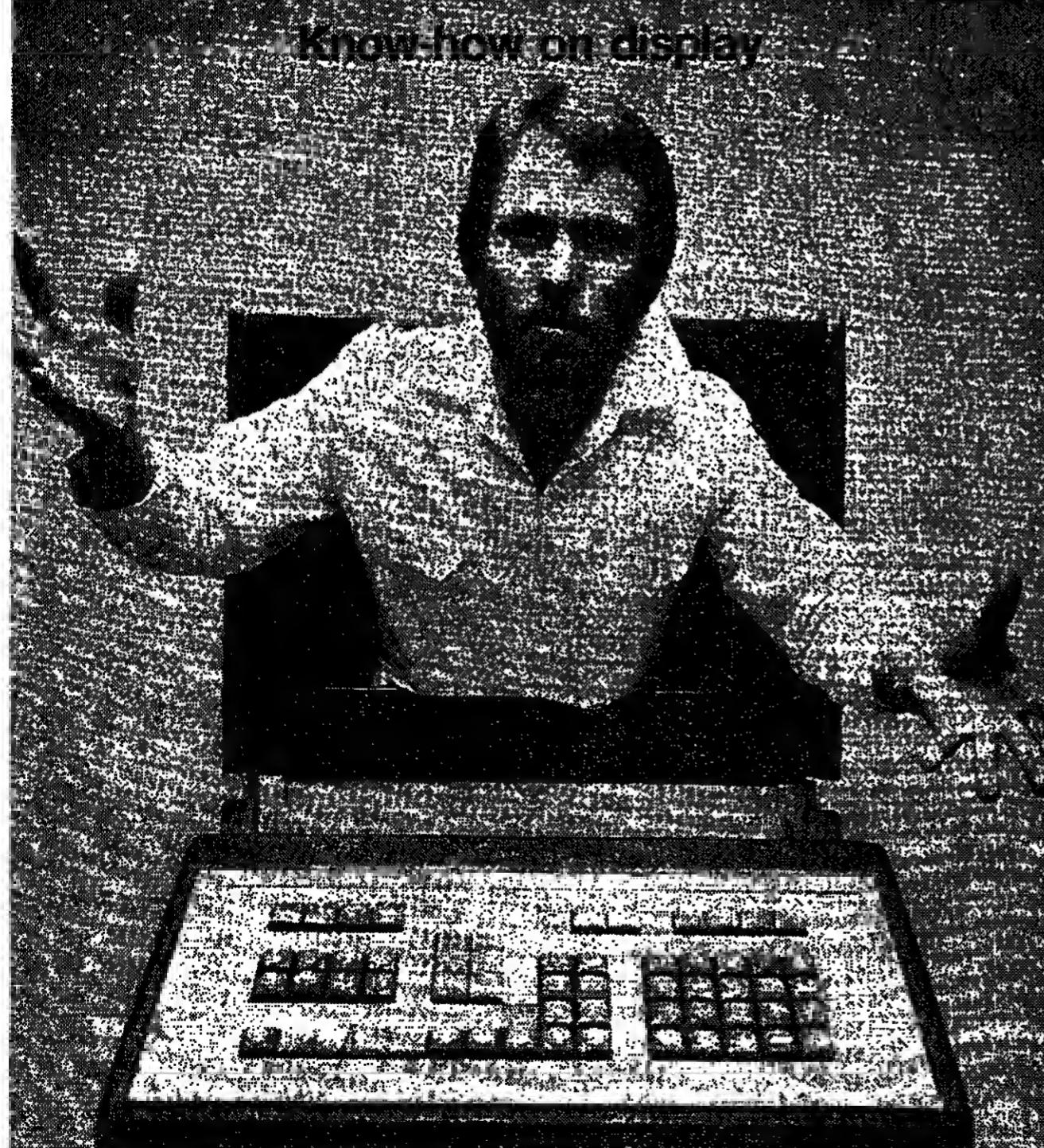
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THE SWEDISH steel industry is still in the throes of rationalisation, as it faces up to the downturn in the world steel business in the second half of this year and in 1981. It is already evident that the downturn has disrupted the reconstruction plans of Svenskt Stål (SSAB), the commercial steel company set up in 1978. The company is now unlikely to reach its target of breaking even in 1982.

In the special steels, which weigh much more heavily in Sweden than in most other countries, the outlook is more promising. Some mergers, a rationalisation of output to obtain larger series and vigorous efforts to offer higher fabricated products and better service on export markets are taking effect. But even in special steels the strength and viability of some Swedish manufacturers remains to be proved.

As in most of the older steel manufacturing countries overcapacity remains a central problem. Even in a relatively good year, such as 1979, the 5m tonnes of crude steel produced were still some 2m tonnes less than capacity.

Largely through SSAB's restructuring, mills producing 1.5m tonnes are being closed but expansions by the special steel makers will add 500,000 tonnes new capacity. Thus even after the current reorganisation, Swedish steel capacity will still be around 6m tonnes.

Capacity utilisation is a key issue for SSAB. Last year it made 2.27m tonnes of crude steel from a capacity of 3.6m tonnes. The plan formulated would leave it with a capacity of 3.1m tonnes after 1981.

SSAB was formed in 1978 with the State taking a half share and two private companies, Granges and Stora Kopparberg—anxious to get rid of steel operations on which they were making punishing losses—dividing the remaining half. Granges handed over its heavy plate mill at Oxelosund to the new company, Stora Kopparberg contributed its Dommarvet works, while the State added its steel plant at Luleå in north Sweden.

Under the programme submitted by SSAB's managing director, Mr. Björn Wahlstrom in May 1978, ore-based steel production would be restricted to Luleå and Oxelosund. The blast furnaces at Dommarvet would be closed down, to be replaced by a modern scrap

steel plant, giving 400 tonnes a year.

The plan for Dommarvet also included a heavy investment in rolling capacity to produce thin steel plate, in which SSAB hoped to recapture a large share of the domestic market. Some SKr 1.5bn is being invested in Dommarvet.

This plan was from the first a compromise with political and social considerations. It is no secret that on a strictly economic assessment, Mr. Wahlstrom would have preferred to have concentrated crude steel production at one of the coastal sites.

Conflict

Moreover, the reconstruction of the industry threatens to produce a conflict of interest. SSAB's plan to turn its Dommarvet works at Borlänge into a modern scrap-based plant will greatly enlarge its need for scrap, in competition with the smaller commercial steel mills and some of the special steel manufacturers.

The future scrap supply is currently a burning issue. In the steel business, 1979 was one of the best years of the decade. Output, exports and earnings in the Swedish industry all improved. But the profitability analysis for the year published in July by Jernkontoret, the Swedish Ironmasters' Association, spotlighted the underlying weakness.

Profitability climbed by some 8 per cent overall in 1979. But the average return on total capital employed in the special steel companies was still 1 per cent loss, while the commercial steel producers lost 5 per cent on their capital. It must in fairness be pointed out that in many companies rationalisation plans had still not given their full effect in 1979.

Sweden made just under 5m tonnes of crude steel last year,

of which over 30 per cent went to special steel manufacturing. Output of finished steel products 3.3m tonnes, valued at roughly SKr 10bn, of which exports accounted for SKr 7.4bn (SKr 7.7bn). Special steel sales abroad were just under SKr 5bn.

In volume terms, Sweden imported more steel than it sold abroad—1.93m tonnes against 1.83m tonnes. But in value, exports were more than SKr 3bn ahead of imports, thanks to the much higher added value in the stainless and alloy steel products. West Germany was the biggest export market, with the U.S. in second place and Britain in third.

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The special steel manufacturers would not doubt oppose the idea. The development of new steel-making techniques—including those under trial in Sweden itself—could reduce the advantages of large-scale blast-furnace production. But the idea that the solution to the problems of Sweden's steel industry lies in closer cooperation between the State Company and private companies is being discussed.

William Dullforce

Exports

CONTINUED FROM
PREVIOUS PAGE

A study, so far unpublished, of the time actually worked by industrial employees in a number of European countries is expected to show that the Swedes put in less time in their factories than any of the others. They also work less overtime, a result which may be connected with high Swedish taxation.

The job security laws, which make it extremely difficult to dismiss or lay off workers when business is bad and also hamper the transfer of workers from declining to expanding industries, provoke further grumbles from business leaders.

Mr. Pär Barnevik, ASEA's new and young managing director, has a refreshing attitude to the situation. "We can talk about how Sweden should be changed and that is an important topic, but it is a company we have to live within that framework and be effective within it," he says.

Pioneer

ASEA offers an illuminating example of the current situation of Swedish engineering. Basically a heavy electrical engineering concern, it has a multi-national spread and a wealth of technical developments to boast. It pioneered high-voltage direct-current electric power transmission; its rail locomotives are built in the U.S. under licence by General Motors. The parent company spends 7 per cent of its turnover on research and development.

But ASEA's profit record is mediocre. The return on "yield-demanding" capital has been a little over 7 per cent in real terms in the last two years. Like several of the other big Swedish engineering companies, its shares are heavily undervalued on the Stockholm exchange.

"The problem is to obtain growth," says Mr. Barnevik, reiterating at company level the dilemma for Swedish engineers as a whole. "Our asset is our technology but we have got to market it. Our future lies outside Sweden and we have to entrench ourselves in new markets."

To return from the company aspect to the national scene it is evident that the future of the engineering companies depends not only on their own technical and business efficiency but also on political and social attitudes. The vexed question is how the politicians can splice together Sweden's consumption and social expectations with the cost framework of an industry that has to compete on foreign markets. The Swedish politicians have not yet produced that new model.

Special steel makers ignore Government

OVER THE last two years the Swedish special steel industry has undergone a thorough shake-up. The Government has made available SKr 1.5bn (\$310m) in loans to facilitate the re-organisation, but—in contrast to its approach to the commercial steel business—it has not put in any equity capital.

The manufacturing of special steel has remained in the hands of private enterprise and the companies have worked out their own answers to the problem of declining earnings and shrinking markets which hit them in the mid-1970's. And despite help from State loans, they have not followed the Government's wishes as outlined in the report of a Commission of Inquiry into the special steel industry in 1977.

Negotiations for the merger of the steel interests of SKF Uddeholm and Fagersta, for instance, broke down. The product differentiation intended by the Government has not been fully achieved, although some mergers have taken place and the companies have worked hard at rationalising output.

There has, however, been a notable similarity about the strategies adopted. The emphasis has been on trimming product ranges to obtain longer series, while greater effort is put into meeting individual customers' requirements.

Paradox

This apparent paradox has been resolved by concentration on volume products, frequently at expanded centres, and by widening the company's trading activities, so that it can buy from other companies the components needed to meet customer's overall needs.

Traditionally, Swedish special steel manufacturers worked by prices per kilogram, offering a broad range of high-quality products with high added-value. Forced by rising domestic costs and foreign competition to increase volumes, they are compensating by more sophisticated marketing techniques.

All the larger manufacturers have also been investing heavily in new plant, demonstrating a remarkable faith in the future. But the weak financial status of some companies must raise a question as to whether all the investment can pay for itself.

Two new groupings have emerged from the re-organisation of the industry. The Kinnarv investment company, which controls Sandvik, has exchanged shares with another investment company,

also acquired control of Fagersta, Uddeholm, by merging its stainless steel interests with those of Granges, has formed Nyby-Uddeholm. It has a 90 per cent holding in the new group and has become the largest of the Swedish special steel companies by turnover.

Two large manufacturers, SKF STEEL and the Alex Johnson group, which owns the Avesta and Björneborg steelworks, have chosen to go it alone, arousing some negative reaction in the process. SKF's expansion of its tool steel operations and its leasing of Bofor's special steel works is particularly angered Fagersta, while Avesta's investment in expanding its production of processed stainless steel sheet and plate overlaps Uddeholm's stainless steel interests.

Perhaps significantly, these two companies were the most profitable last year and promise to be so again this year. In fact, if the income from sales of subsidiary electric power operations is excluded, these were the only two companies to make money from steel operations in 1979. Both also belong to groups with strong financial resources.

Avesta has an annual stainless steel ingot capacity of 200,000 tonnes and can roll the widest stainless steel strip in the world. It is expanding both at home and abroad, having recently acquired a tube manufacturing company in Holland. A new unit, Axel Johnson Steel, is being planned, to trade worldwide in special steels. It will handle not only the group's own products but buy outside components to offer customers system solutions.

Mr. Karl-David Sundberg, managing director of SKF STEEL, has no misgivings about going it alone. SKF runs more than 600,000 tonnes of ingots per year through its two mills, has big volumes in its specialities, and has just invested some SKr 225m in "the most modern electric steel mill in the world" at Hofors.

In 1979 SKF STEEL made a loss of SKr 180m; last year it earned SKr 85m before tax; this year, it expects to make some SKr 100m. This year, even after losing about SKr 30m during the Swedish labour dispute in the spring, Mr. Sundberg attributes this recovery to the modernisation at Hofors and to a cost-efficiency drive which has cut the labour force by 400 at the same time as production volumes have grown.

Rebutting criticism of SKF's expansion into tool steel, Mr. Sundberg points out that the main message from Uddeholm management is a new marketing philosophy. This has been pushed very strongly in the U.S., where Uddeholm has 24 service centres. These do not merely distribute but also offer customised tool steel grade needs and problems. Uddeholm cannot compete in price with American steel manufacturers on individual steel grades, but it can attract customers by offering them a "total cost solution," it is argued.

W.D.

SWEDISH STEEL AND ENGINEERING III

Industrial climate right for robots

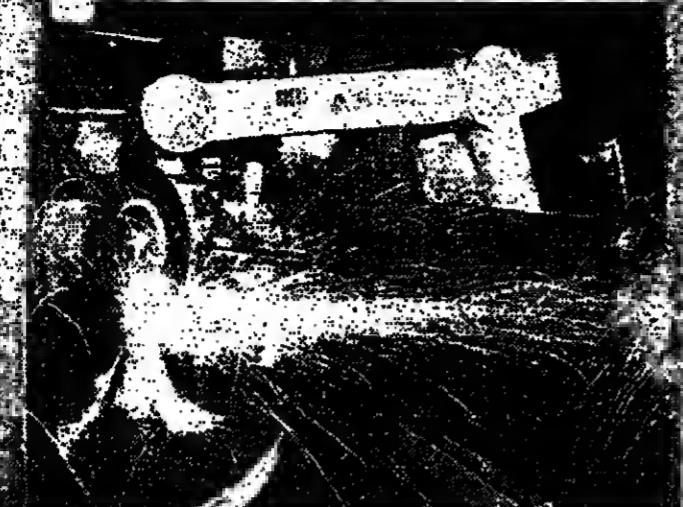
SWEDEN CAN fairly claim to be one of the most advanced nations in the world in the use of industrial robots. By the end of this year more than 1,000 robots will be operating in Sweden, giving it the world's highest robot ratio per head of population. The country has more than one-third of the robots at work. In Europe, Britain, by contrast, has less than 200.

The Swedes are not only consumers. They have four robot manufacturers, of which one, ASEA, is among the three largest in the world. Another, Electrolux, is expanding rapidly from its home base. A third well-known Swedish company, Atlas Copco, recently bought up a small domestic company producing a paint-spraying robot. It is now aiming at a world market.

It was natural for Swedish companies to be among the first to exploit the opportunities of robots in the 1970s. High labour costs, a strong environmental lobby and trade unions, which were both extremely safety conscious and well-disposed towards the introduction of more effective production methods, offered plenty of incentives.

Now the Swedes are conducting intensive research into flexible manufacturing systems, exploiting the facilities offered by robots, computers and numerically controlled machines. ASEA and the Institute of Engineering Research (IVF) in Gothenburg are developing a "production with limited manning" concept which could dramatically enhance the effectiveness of production systems.

ASEA's robots are linked to machine-tools in production groups which in daytime can be



An ASEA robot cleaning a casting. The robot picks up the castings fed to it on a roller conveyor and moves them to the correct positions for a rotary cutter and grinding wheel to clean them

fully manned and carry out the more complicated operations. During evening and night shifts, which may be partly or completely unmanned, the robots execute simpler operations. Production engineering of this kind not only cuts labour costs, it also enables expensive machines to be depreciated faster. This in turn should enable companies to keep up with investment in fast developing technology.

Industrial robots and the accompanying microcomputer technology are likely to be a determining factor for the future of Swedish industry. They offer opportunities for engineering companies to cut costs and retain the competitiveness which has been under increasingly strong pressure during the last decade.

into Sweden. But Electrolux was not far behind in developing robots to work on the production lines for its refrigerators and other household equipment. The welding of car parts, nevertheless, gave ASEA the first impetus for the development of its robots in co-operation with ESAB, the welding equipment company, in which it has a 50 per cent shareholding.

Electrolux's robot philosophy is somewhat different from that of ASEA. It has deliberately gone for an unsophisticated product.

The household appliances group makes two robots, senior and junior, both with pneumatic drives for handling materials, and loading and unloading machines. Their most prominent feature is a modular system, which has enabled Electrolux to widen the work range by gradually introducing new components, such as gripping devices.

Depending on the specification, an Electrolux robot costs between \$26,000 and \$43,000. Some 450 have been made, of which about 100 are used within the Electrolux group.

Earlier this year, Electrolux signed a co-operation agreement with Automatic Inc., a new advanced technology company financed by the Massachusetts Institute of Technology and Harvard University, which has a welding robot guided by a television camera under development.

Atlas Copco is marketing a paint-spraying robot, the Coatamatic, developed from the original design by Retab, a small company which it took over. The main feature is a floppy disc memory which enables the robot to repeat exactly the movement through which the operator has taken its manipulating arm.

Arc welding is still the largest

single application for ASEA robots and the new sensing feature should double or even treble this market, Mr. Skoog calculates. But the robots are tackling more and more jobs.

The company's latest reference list shows that 69 of the larger robots have been sold for spot welding.

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JULY 1980

Vehicle makers step up marketing drive

TRANSPORT PRODUCTS have remained a major export staple of the Swedish engineering industry. Volvo, the truck and automobile maker, is the largest company in the country with sales amounting to SKr 23.5bn (\$3.62bn) during 1979. Of that amount, 76 per cent was accounted for by markets outside Sweden.

Saab-Scania, the aircraft manufacturer, also has a highly profitable truck division, and ASEA, the heavy electrical engineering group, produces locomotives and cranes.

It seems improbable that Sweden, a country of only 8.3m inhabitants, could be the home base for such a large engineering industry. The quality of engineering of Swedish transport products has been their main selling point. At one time, it was argued that the Swedes had become mere order-takers, lulled by the belief that their products were of sufficient quality to market themselves.

If the claim could once be justified, it is no longer true. With stiff competition arising from lower-cost countries producing in massive series and tightening demand, the companies have become more aggressive in their marketing. These manufacturers have turned to a strategy of selling increasingly specialised products, moving toward a systems approach, and entering into joint ventures to help offset research and development costs. In many cases the result has been successful.

Saab-Scania, for instance, opened the door in the civil aviation market this year through an agreement with Fairchild Industries in the U.S. to build a new commuter aircraft. It is the first European-American partnership for construction of a complete plane. It is a tailor-made product for a specialised but expanding market.

Turbo-prop

Designated the Saab-Fairchild 340, the aircraft will be a twin-turbo-prop 34-seater with General Electric CT 7 engines. The demand for this type of aircraft over the coming decade is estimated at over 2,000.

The joint venture represents a challenge to such manufacturers as De Havilland of Canada, Embraer of Brazil, Britain's Short Bros. and Commer Aircraft Corporation, Ohio. It was also a blow to Volvo, which has an important stake in the Swedish aerospace business. Its Flygmotor subsidiary builds modified Pratt & Whitney engines for Saab's military plane, the Viggen.

Volvo had staked its hope on Saab choosing the Garrett TFE 331-15 turbo-prop engine in the development of which. Flygmotor purchased a 15 per cent share earlier this year. At the same time it took a 5.6 per cent holding in the Garrett TFE 731-5 turbo-fan engine, which is intended to power Boeing's new 757 aircraft. (The two co-operation partners with U.S. engine makers are costing Volvo some

SKr 800m, including Government loans.)

Saab also has a joint venture with British Aerospace for the short-take-off-and-landing BAC HS 146, in which the American Avco-Lycoming and Aéro Italia are participating. Saab's share of the deal involves manufacture of movable wing parts.

Both the Swedish companies must continue to strike for a balance of their military production with the development and manufacture of engines for civil aircraft. The two manufacturers have scored some success in another transport area, buses, where development and production complement their major truck businesses.

Last year the Scania bus and truck division of Saab sold over 2,500 buses, a 24 per cent improvement from the year before. Africa, South America and other markets outside Europe accounted for a 152 per cent sales jump, although the largest market continued to be the Middle East. Volvo recorded a 39 per cent sales improvement during 1979 for its bus sales against the year before, and has concentrated on marketing entire public transport systems.

As an example, Volvo recently signed a five-year contract with the Punjab Urban Transport Corporation to develop a public transport system for the city of Lahore, Pakistan. The contract involved more than a supply of vehicles, for Volvo was marketing a complete system for the city's 3m people. The system included planning routes, frequency of services, location of bus stops and even printing the time tables. Volvo will also train drivers, administrative and maintenance staff and will help the Pakistanis to establish a company to build bodies for the buses.

A separate subsidiary, Volvo transport systems, was created to handle this growing new line of business. First-time markets for Volvo buses last year included Angola, Singapore, Taiwan and Brazil. During the year production amounted to 3,500 chassis, 1,000 more than the year before. A new chassis, the R16m, was put into production in February with over 700 orders in hand.

Trucks, however, remain the most expansive and profitable business for both manufacturers, a trend which is expected to continue. To illustrate this, Saab car sales dropped 11 per cent in the first four months of this year, while Scania trucks recorded a 13 per cent sales increase. According to the latest available figures for Volvo, their truck sales development is similar. Both truck makers are looking to markets outside Europe for future earnings.

Both are among the world's largest exporters of trucks with a total weight of more than 16 tons. Some 88 per cent of Scania sales were outside Sweden last year, compared with 86 per cent the year before. Sales in Asia increased by 96 per cent during the year, followed by Africa, with 43 per cent. Iraq was the

largest Scania truck customer, importing 3,250 units in 1979.

In Tanzania, Scania has a cooperation agreement with the National Development Corporation. The truck-maker continues to rely on its plants in Latin America to pursue growth, and has factories in Brazil and Argentina, where worldwide component manufacturing is carried out.

For Volvo, truck sales last year increased by 24 per cent, and 29,000 units were delivered. Britain was the largest export market, followed by France and Sweden.

Volvo has set up a deal with freightliners in the U.S. for that company to distribute Volvo trucks in North America. Truck assembly will begin in the autumn at a new plant in Brazil.

Shorthlisted

In addition, Peru has shortlisted Volvo to assemble heavy trucks there under the Andean Pact agreement with Bolivia, Ecuador, Colombia and Venezuela, which aims to develop a regional motor industry. However, Volvo lost its bid for the medium-size truck project for which it was also bidding and which is expected to be allocated to Ford or General Motors.

Volvo International Development Corporation is a special unit set up at the group's Gothenburg headquarters to develop sales outside Europe and North and South America. It recently brought home a SKr 500m order for 1,800 Volvo trucks in Iraq over two years, and landed a deal in 1978 to sell 1,000 trucks to China.

Despite a reputation for quality, and specialisation into the highly selective luxury class personal car market, both Saab and Volvo have had problems with their car divisions over the last year. It is a problem shared with most other car manufacturers. But both have enjoyed some success in entering into joint ventures with other European companies.

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In Tanzania, Scania has a cooperation agreement with the National Development Corporation. The truck-maker continues to rely on its plants in Latin America to pursue growth, and has factories in Brazil and Argentina, where worldwide component manufacturing is carried out.

For Volvo, truck sales last year increased by 24 per cent, and 29,000 units were delivered. Britain was the largest export market, followed by France and Sweden.

Shorthlisted

In addition, Peru has shortlisted Volvo to assemble heavy trucks there under the Andean Pact agreement with Bolivia, Ecuador, Colombia and Venezuela, which aims to develop a regional motor industry. However, Volvo lost its bid for the medium-size truck project for which it was also bidding and which is expected to be allocated to Ford or General Motors.

Volvo International Development Corporation is a special unit set up at the group's Gothenburg headquarters to develop sales outside Europe and North and South America. It recently brought home a SKr 500m order for 1,800 Volvo trucks in Iraq over two years, and landed a deal in 1978 to sell 1,000 trucks to China.

Despite a reputation for quality, and specialisation into the highly selective luxury class personal car market, both Saab and Volvo have had problems with their car divisions over the last year. It is a problem shared with most other car manufacturers. But both have enjoyed some success in entering into joint ventures with other European companies.

As an example, Volvo recently signed a five-year contract with the Punjab Urban Transport Corporation to develop a public transport system for the city of Lahore, Pakistan. The contract involved more than a supply of vehicles, for Volvo was marketing a complete system for the city's 3m people. The system included planning routes, frequency of services, location of bus stops and even printing the time tables. Volvo will also train drivers, administrative and maintenance staff and will help the Pakistanis to establish a company to build bodies for the buses.

A separate subsidiary, Volvo transport systems, was created to handle this growing new line of business. First-time markets for Volvo buses last year included Angola, Singapore, Taiwan and Brazil. During the year production amounted to 3,500 chassis, 1,000 more than the year before. A new chassis, the R16m, was put into production in February with over 700 orders in hand.

Trucks, however, remain the most expansive and profitable business for both manufacturers, a trend which is expected to continue. To illustrate this, Saab car sales dropped 11 per cent in the first four months of this year, while Scania trucks recorded a 13 per cent sales increase. According to the latest available figures for Volvo, their truck sales development is similar. Both truck makers are looking to markets outside Europe for future earnings.

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SWEDISH STEEL AND ENGINEERING IV

Search for cheaper iron production

SWEDEN IS currently in the remarkable position of having no less than three new processes for the manufacture of liquid iron under development. They have emerged simultaneously but independently and, in the words of Mr. Hans Sticker, the man in charge of ASEA and Stora Kopparberg's Elred, they promise to "break the hegemony of the blast-furnace."

All three processes aim at lowering the costs of producing crude iron, thereby opening the way for cheaper steel. By eliminating the coking and sintering needed in the blast-furnace process, they reduce both capital costs and environmental problems. They are also designed to save energy and offer greater flexibility in the type of fuel used.

The Swedes' search for a cheaper and more efficient method of producing liquid iron parallels the more advanced development of sponge iron or directly reduced iron (DRI) technology. DRI is primarily a complement to or substitute for the scrap iron used to feed electric arc furnaces. Demand for DRI is growing fast, as more and more steelmakers turn to electric arc furnaces and world scrap supplies are likely to become inadequate.

But DRI is highly energy-intensive and is at present most economical when cheap natural gas is available. Sweden has no natural gas, although a determined effort is now being made to persuade the Norwegians to supply gas from the North Sea. It was therefore logical for the Swedes to look for cheaper ways of producing liquid iron like that obtained from a blast-furnace, which can be used for making steel in an oxygen converter.

One drawback to blast-furnaces is that they need to be extremely large to produce iron economically. Even with the refinements that the Japanese have recently introduced to blast technology, an output of about 1.3m tonnes a year appears to be the minimum required.

The Swedes were accordingly looking for techniques to produce liquid iron on a smaller scale, but at a cost competitive with the massive blast furnaces of the Japanese. Sweden's special steel manufacturers do not require large supplies of crude iron. Moreover, the attraction for developing countries of a small-scale iron and steel process with a low capital investment had not escaped the Swedish companies. Three of them—ASEA, in cooperation with Stora Kopparberg; SKF and Boliden—have

independently built pilot plants based on different techniques, which all appear to live up to these specifications. Cost savings of between 20 and 30 per cent are claimed in the production of liquid iron.

But the crucial step remains to be taken. The processes have to be proved fit for commercial production in demonstration plants, in making iron, the jump from the laboratory or pilot plant to full-scale manufacturing is especially critical because of the high melting point of iron, the tendency of the iron-reducing additives to "stick" and the effects of the slag produced on the materials used in the furnaces or reactors.

Experience

Swedish metallurgists have long experience of these difficulties. Several Swedish iron and steel making inventions—the Kaldor furnace, the ASEA-Stora process for high-alloy steel—have been very successful. But failures when scaling up promising innovations have been numerous. Moreover, the risk capital required for a demonstration plant also involves a giant leap.

The Industrial Fund has set up a committee of three professors to evaluate the new techniques, while a foreign consulting firm has been engaged to examine the market prospects. But, as Mr. K. G. Bergb, director of research at Jernkontoret says, at this stage no expert could advise that investment be concentrated on one of the processes without running the risk of misjudging the potentialities of the other processes.

The companies in any case do not appear to lack offers from steel manufacturers abroad to help finance development.

American and Japanese companies in particular have shown interest and all the Swedish companies express determination to put their new processes

to the test. ASEA claims that the ELRED method which it has developed jointly with Stora Kopparberg is furthest forward.

ELRED is a two-stage process, the first entailing pre-reduction in a reactor of fine-grained iron ore concentrate and dust coal, the second involving the final reduction to liquid iron in an arc-furnace at 1,450 degrees Centigrade.

The ELRED method resembles an enclosed system. Slag and five gases are the only waste products. The gases used for reducing the iron are generated within the reactor, eliminating the need for a separate gas reduction plant. The gases are also used to drive turbines, producing not only sufficient electricity for the processing of the iron but also providing a small surplus. This is said to be a significant factor in reducing costs.

Coal is the only energy source and almost any type of coal may be used, it is claimed.

The steel division of SKF, the bearings group, has adapted plasma technology to iron making. Plasma is the state of ionisation to which gases are transformed when heated to very high temperatures. Plasma generators were developed during the U.S. space research programme to simulate the temperature conditions which would face the nose cones, heat shields and rocket nozzles of space capsules.

Using plasma generators, SKF has developed two metallurgical reduction processes. PLASMARED reduces the amount of energy needed to make DRI and allows greater freedom in choosing other energy sources than gas, for instance coal. SKF is already building a 70,000-tonne PLASMARED plant to produce sponge iron for its Hofors mill and reports "tremendous interest" from abroad.

Its second method, Plasmamelt, is a two-stage process

Total steelmaking costs in \$/tonne

Cost comparison of ASEA's and Stora Kopparberg's ELRED process with current steel production methods

	Blast furnace (sinter)	ELRED (sponge iron)	Shaft furnace
Iron raw material *	51.6	33.5	60.0
Energy †	54.4	16.8	47.6
Processing ‡	37.5	38.0	51.6
Capital costs §	39.0	45.7	44.3
Unforeseen costs	—	11.0	—
Total steelmaking costs, \$/t	182.5	145.0	203.5
Relative total costs as a percentage	100	80	112

* Concentrates and pellets, respectively, alloying elements, cooling pellets, scrap.

† Coke, coal, oil minus energy credit plus electricity in steel mill (\$15/t).

‡ Labour (operation, repairs and maintenance), electricity, electrodes, lime, oxygen, refractories, desulphurising (for ELRED).

§ For the ironmaking and steelmaking plants.

Source: ASEA

like ELRED, producing liquid iron. It is claimed to entail a capital investment for a given capacity of less than half the investment in a blast-furnace and to produce hot metal economically at outputs of only 250,000 tonnes a year.

SKF has conducted trial runs of this process with 0.5 megawatt and 1.5MW plasma generators. The next step planned is to build a half-scale plant of 15 MW and with a capacity of 60,000 tonnes liquid iron or ferro-alloys a year at the Hofors mill.

Boliden, the metals and chemicals group, claims that its INRED system will be the cheapest measured in total costs per tonne of iron. It has been developed from flash-smelting techniques used in producing metals and was originally

W.D.



The Gotaverken Arendal yard has produced such specialised offshore units as this accommodation and multi-service rig, for North Sea employment, delivered in June.

other so-called alternative production order—a very large contract estimated to be worth between SKr 16bn and SKr 2bn for an ammonia/urea plant for the Pakistan Ajman fertiliser corporation—has been hamstrung by financing difficulties.

On the other hand, Arendal seems to have penetrated at least one new and expansive market: the offshore industry.

The yard is the Swedish licensee for Friede and Goldman, a New Orleans-based engineering firm, to produce parts with Rockums on developing prefabricated plants and modules.

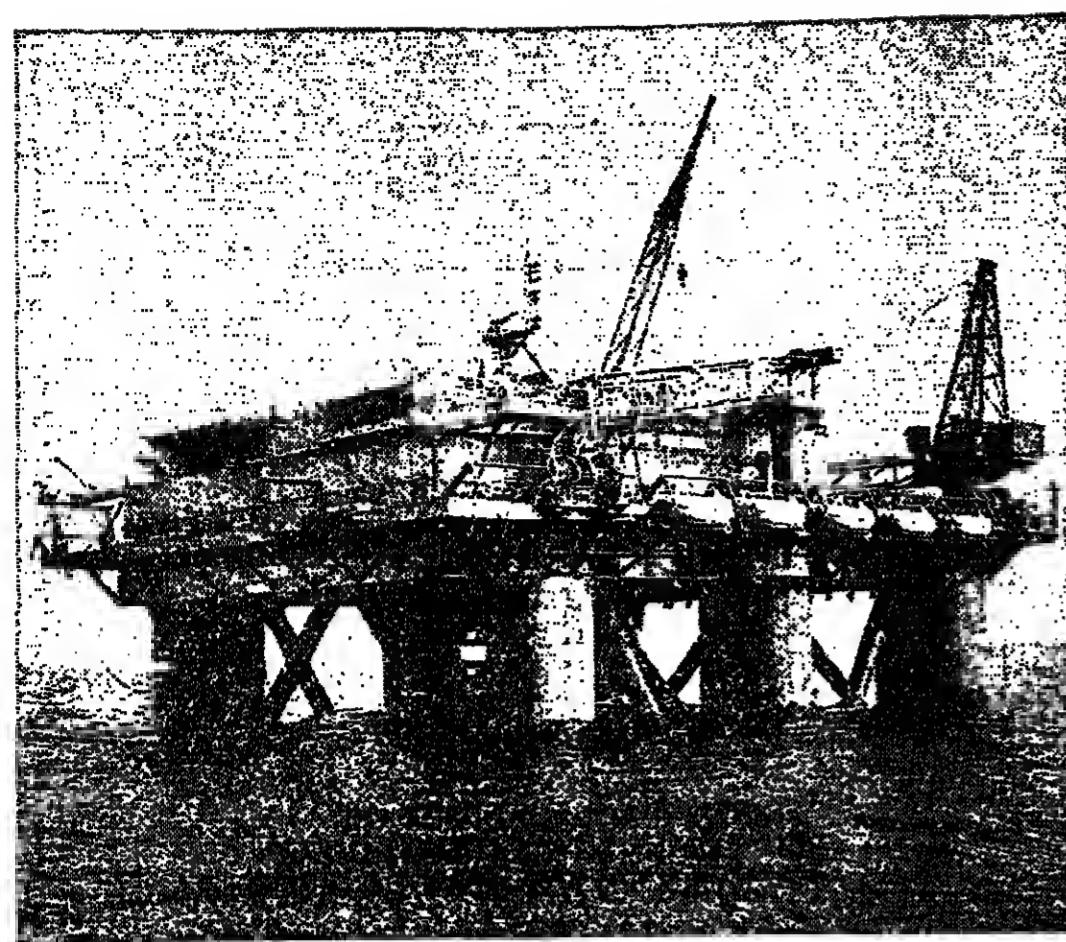
Rockums is to specialise in the output of tankers, bulk carriers and unisized cargo vessels. And Gotaverken city yard in Gothenburg will continue as a dry dock/repair yard. In all, SKr 800m was designated in the Bill for product development—an amount said to be modest for covering the 1980-1984 period.

The two yards geared to new types of production, Rockums and Arendal, now say their expertise is sufficient to develop many projects without outside engineering and other technical advice, although some experts are willing to debate this point. Orders are co-ordinated through Swedyards Development Corporation, the group marketing unit (which has also received a portion of the development money). The yards also have the advantage of being able to cover contracts within a State-owned group.

"Traditionally business has been transacted between private companies but now, with more of the developing countries becoming customers, the trend may be towards more state-to-state deals," says Mr. Per Dahlgren, marketing manager for Rockums' vessels division.

The division has received no orders to date, however. The yard's main problem in moving into new lines of business is the difficulty of penetrating specialised markets and of proving to potential clients the order can be handled without specialised expertise.

Two years ago the vessel division won an order from the Panamanian subsidiary of a Lebanese company, Libexim, for three cement distribution barges. The contract was secured on a private basis by Rockums. But the yard's only



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THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

Management abstracts

These summaries are condensed from the journals of abstracts published by Arbor Management Publications. Readers wishing to consult original texts should write to: PO Box 23, Wembley, HA9 8DJ.

How Work Disrupts Private Lives. F. Bartolomei and P. A. L. Evans in Harvard Business Review (U.S.A.), March/April 1980; p. 137 (12 pages).

Based on a survey, finds that executives whose private lives deteriorate are subject to work-related negative emotional feelings which spill over into family and leisure time; offers suggestions for managing "spillover" and looks at the role of the organisation in reducing work pressures.

How Multinationals Cope With Host Government Intervention. Y. L. Dax and C. K. Prahalad in Harvard Business Review (U.S.A.), March/April 1980; p. 149 (8 pages, chart table).

Identifies ways in which host governments are increasingly limiting the strategic freedom and threatening the managerial autonomy of multinationals, and discusses how they can respond to such restrictions, examines the sources of bargaining power available to both parties, and suggests organisational adjustments multinationals can make to co-ordinate their responses and maintain flexibility of action.

Office Automation. T. M. Lodahl and N. D. Meyer in Administrative Management (U.S.A.), March 1980; p. 32 (54 pages).

Defines various pathways to office automation, each seen as a starting point for information procedure change — e.g., text handling, filing and retrieval, telecommunications, and decision support schemes — and outlines their advantages and disadvantages.

Holidays for Managers. R. Ender in Manager Magazin (Fed. Rep. of Germany), April 1980; p. 66 (8 pages, in German, English version available).

Investigates the extent to which — over recent years — the managerial privilege of longer holidays has been eroded, and asks what can be substituted (with some factual examples). Stresses the growing number of managers who cannot or will not even take the holiday they are entitled to.

Warning: paperwork can damage your health

In the first of two articles on the use and misuse of information, Lionel Wardle argues for a radical reappraisal of existing systems

TOO MUCH paperwork makes managers and organisations tired, sluggish and inefficient. Just keeping it circulating can absorb up to 50 per cent of the available time and energy.

The symptoms are usually apparent to all: the overflowing in-tray, the number of memos, reports and other documents to be written and read, the amount of paper to be handled to do even a simple job.

Less well understood are the causes of excessive paperwork: the negative emotional feelings which spill over into family and leisure time; offers suggestions for managing "spillover" and looks at the role of the organisation in reducing work pressures.

Managers complain about paperwork but they do so in a way that suggests it is endemic to the job. It is as though they believed that somewhere the "Great Spirit" had ordained that they should be afflicted in this way. It's a price to be paid for the lascivious pleasures they enjoy, a thing to be suffered and endured rather than changed.

The main difficulty in persuading management to tackle the disease lies in convincing them that it is serious, that it would be in their interest, and profitable, to devote resources to solving it, and that it can be cured.

Many managers attribute excessive paperwork to the behaviour of individuals, for example, to the man who produces paperwork to cover himself in case anything goes wrong, the type who believes that his performance assessment will depend on the volume of paper he produces, or the individual whose motto seems to be "if it's in writing, it's important."

Although this explanation is attractive to management, since it shifts the blame elsewhere, it won't do. Individual behaviour accounts for only a small part of the paperwork problem and the explanation confuses symptom and cause.

There are three factors which account for the bulk of unnecessary paperwork. The first is the use of systems and procedures for getting work done which are neither efficient nor effective.

A good illustration of how an ineffective system can generate paperwork has been provided by Marks and Spencer. When assistants wanted to re-stock their counters they had to write out in triplicate a requisition

for the goods they required. They would then queue at the stock room with other assistants to obtain the goods they needed. It was only when the chairman went round some of the stores and found frustrated customers waiting to be served that the objectives of the exercise were queried.

The system had been introduced to monitor and control stocks and reduce pilferage. A new system was introduced whereby assistants simply went to the stock room and helped themselves to the goods they needed. As a result of the change not only did the company get rid of a warehouse full of documents, they also saved themselves a lot of money. (Stock control was carried out by the area manager and the assistants themselves).

Using paperwork to control or supervise operations is a second factor that accounts for much unnecessary paperwork. For example, following an incident which resulted in a generator being burnt out, engineers were required to make daily measurements and records of the condition of the insulation on all electrical plant.

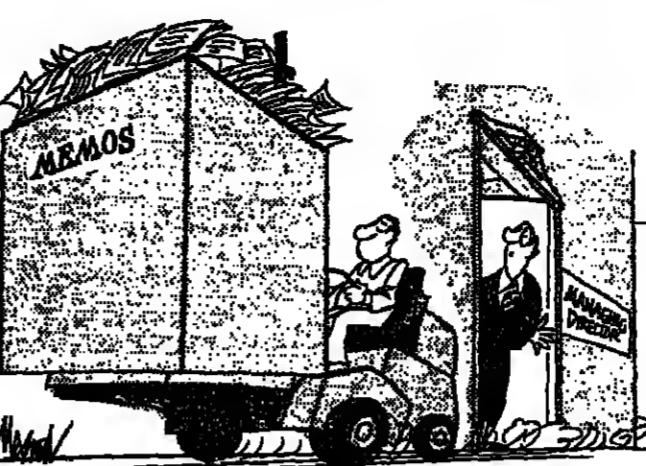
To ensure that they were carrying out their duties as required they were told to send the data to the office at the end of each month for review by the manager. For three years 25 engineers spent their time compiling thousands of pieces of data which provided little or no information.

Stand trial

This example points to a similar source of unnecessary paperwork: those systems set up in response to one-off situations which are allowed to continue long after their original purpose has disappeared.

Given the other, calls on a manager's time, it may seem unrealistic to say that all paperwork systems should stand trial for their lives at least once every five years. But you can choose. You can either spend a lot of time pushing paperwork around, or you can spend some time cutting it down to size. One thing is certain: left to itself it just continues to grow.

Underlying most other sources of unnecessary paperwork is the confusion of data with information. Data only become information when the manager can use them for making decisions or guiding a course of action in relation to the objectives he wishes to achieve.



An example of how data and useful information can be confused is provided by a company's overtime monitoring and control system. The main objective of the system was to ensure that any overtime worked was cost effective. So data was collected on the amount of overtime worked and the cost of the overtime, with time sheets, weekly and monthly summaries, details of how much overtime was worked by individuals, sections and departments, including when the overtime was worked and what the work was.

Despite all this data the company still could not say whether or not overtime was cost effective. It had no information on what the overtime achieved.

Another case illustrates a different aspect of the problem. This relates to the collection of data on boiler water quality. Engineers were required to check and record on a daily basis the level of impurities in the boiler water. If the permitted levels were exceeded then the effects were neutralised by adding chemicals. Each month this data had to be collated and sent to management for review.

Following the review the management then sent it to a firm of boiler water specialists for a second review. In all, some 10,000 pieces of data were collected and reviewed in this manner each year. After the system had been operating for a number of years the question was raised as to the information obtained from this data. In other words, what was made of it? The system was discontinued.

The ready availability of computers will increase the temptation to collect masses of "interesting" but useless data. The only way to suppress this innate instinct is to keep asking questions like "How will you use the data?" "What would happen if you did not get it?"

There are several tests a business or organisation can apply to determine whether or not it has a paperwork problem. A simple one is to establish how many letters, ciphers, photocopies or other forms of written communication pass in and out each week. Assume that it takes two minutes to read each cable or photocopy and 10

minutes each to read and reply to a letter. Calculate the total manhours spent on these activities. Then, depending on the nature of your business, you can decide whether or not you have a problem.

Another method which is quite effective is for the chief executive to ask for a copy of every form or document that is handled by his staff in a given week. With it all piled up on his carpet he won't need anyone to tell him whether or not he has a paperwork problem.

A well designed programme to reduce paperwork should pay for itself several times over.

It saves in reduced handling and processing. This may seem to be a bold claim but it is justified by practical experience.

But more important than the money to be saved is the benefit to be gained in creating the opportunity for staff and management to work more effectively on the things that matter. When a manager is up to his hockside in paperwork it's easy for him to lose sight of the essentials and to confuse the urgent with the important.

The benefits to be gained by being able to work more effectively are well illustrated by a study carried out in a shipping company's purchasing department.

It was found that despite the fact that the purchasing staff were highly committed and hard working, the average time taken to process an order from start to finish was two and a half months at a rate of one order per hour. With requisition

about real and lasting improvements in paperwork systems is first to determine why they exist and what they are supposed to do; then to establish that those objectives are valid; and finally, to determine from first principles the most effective method of achieving those objectives.

This is an exercise that some managers and members of staff may find painful. It involves challenging assumptions about things they have been doing for years. It may well find that some of the work they do is ineffective or serves no useful purpose. People do not take kindly to those who produce such revelations.

This is just one of the reasons why active support of senior management is vital if the programme is to succeed.

Given that you have the ability to work in a systematic and disciplined manner and have a reasonable level of diagnostic skill and knowledge, it is not hard to find better ways of doing things. Many paperwork systems were never rationally designed, they just grew. The difficulty comes in persuading people to accept proposals for change.

Getting changes accepted requires careful planning, presentation and hard work. They are unlikely to be accepted simply because they are logical and reasonable. A rule of thumb which has been found useful is that if it takes four hours to establish information on a system, then it will take double that time to carry out an analysis and four times as long to get any proposed changes accepted.

Honesty works

There are several things that can be done to help people develop more positive attitudes to change.

Above all, be honest about what you are doing. As Robert Townsend puts it in his book *Up the Organisation*, "honesty really works." If the programme succeeds as you intend, then you will probably reduce the workload by 20 per cent or more. This means redeployment and possibly redundancies. Unless you have plans to deal with those problems you are unlikely to get co-operation.

Try to show success early in

the programme by eliminating some of the more obvious cases of unnecessary paperwork; this helps to establish credibility.

Involve staff in the programme as much as possible. Get them to draw flow-diagrams of how the existing system operates, and ask for their ideas on how things might be improved. Some of the best suggestions come from people who are closest to the action. If you can reach the point where they are claiming all ideas and proposals as their own, the programme is going well.

Provide training, so that they are in a better position to contribute and understand what is happening. For example, run seminars and workshops on improving organisational and business effectiveness, on effective delegation, on methods of eliminating paperwork and on developing better systems of working.

In short, if paperwork is damaging the health of your organisation you will need to convince staff and management that a cure is necessary and that the results will not be worse than the disease.

The examples quoted in this article underline that a programme which is ostensibly concerned only with paper is a surprisingly incisive and powerful tool for identifying unnecessary work and improving the overall effectiveness of an organisation.

Many organisations are now actively considering installing new computer systems. If they carried out a paperwork slimming programme and cleared up their manual systems before hand, they would save themselves a lot of time, money and aggravation. Many would find they do not need a computer at all, or at least not a sophisticated one.

Whether or not a company has a paperwork problem is something each management must decide for itself. But it is only fair to point out the risks involved in the treatment. What would you do with your time if 50 per cent of your paper work was eliminated?

Dr. Lionel Wardle, an occupational psychologist, is a partner of Wardle and Wardle, a management and personnel services consultancy (37, University Road, Highfield, Southampton).

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Raising the banner of dry revolt

BY ANTHONY HARRIS

WITH UNEMPLOYMENT past 2m and rising fast, profits collapsing and daily closure announcements, one might well expect the Government to come under increasing pressure from the critics. Mrs Thatcher usually denounces as "wet"—the un-reformed Keynesians who would like to see policies relaxed to allow industry a breathing space. Yet remarkably little has been heard from these people in recent weeks—that line of argument has been taken over by the trade unions and the Labour party.

Sinister

That does not mean, however, that the Government is not being criticised by some of its natural supporters. On the contrary, criticism is becoming a great deal less inhibited than for a long time; but it is coming from a different quarter. Some of the most enthusiastic supporters of the Government's professed strategy are beginning to announce their disillusion with the way it is being carried out. Mr Enoch Powell called for higher taxes. In the City there is some sinister work going on various gurus, back from their holidays, polish and sharpen the circulars which will explain *What Went Wrong*.

This "dry" school of criticism does share one worry with the wetters—a worry about the excessive pressure on industry. But where the wetters used to accuse the Government of being too rigid, the dry explain the trouble in just the opposite way: the Government has not been determined enough.

The figure which has produced this change is not the one for unemployment, but another, which seems to be rising almost as uncontrollably—the money supply. The monetary explosion, even if it is only a statistical explosion, has outflanked the wetters in a rather unexpected way. It is simply not plausible any more to argue that our troubles are due to excessive monetary severity. Indeed, with the building societies seeking borrowers for £50,000 loans, and the credit card companies raising credit limits routinely, without even wanting to be asked, it is equally hard to argue that credit is tight. It is simply fairly expensive.

TV Radio

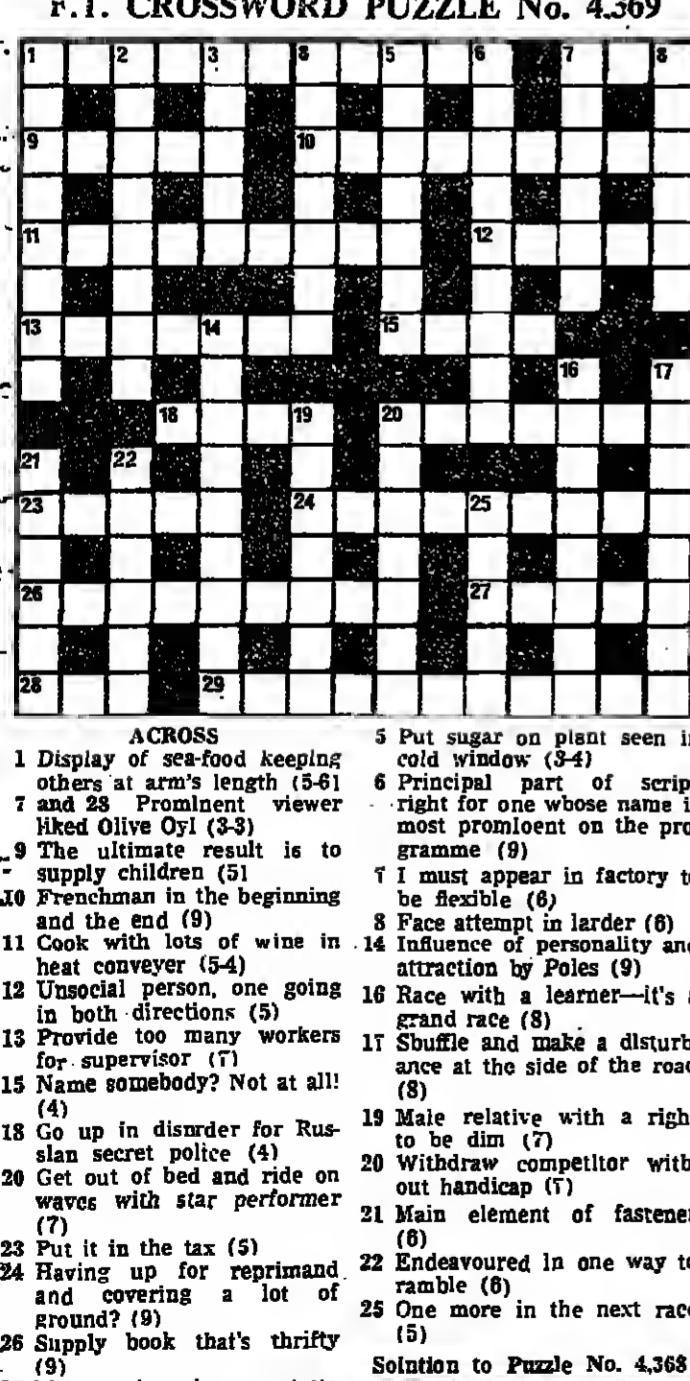
BBC 1

+ Indicates programme in black and white

6.45-7.55 am Open University (Ultra high frequency), 12.45 pm News, 1.00 Pebble Mill At One, 1.45 Trumpton, 3.20 Trott, 3.55 Regional News for England (except London), 3.55 Play School (As BBC 2 11.00 am), 4.20 Hong Kong Phoney, 4.40 Play Away, 5.05 John Craven's New Ground, 5.10 Stopwatch, 5.40 News.

5.55 Nationwide (London and South East only).
6.20 Nationwide.
7.00 The Tuesday Film: "Climb An Angry Mountain," starring Fess Parker.
8.30 Wildlife On One.
9.20 Fair Stood the Wind for France.
10.20 The Miracle Workers.
10.59 Invitation to the Dance: "The Firebird," music by Igor Stravinsky, choreography by Maurice Bejart, danced by the Ballet of the 20th Century.
12.20 News Headlines.
11.22 Juliet Prowse and Company.

F.T. CROSSWORD PUZZLE No. 4369



TO THOSE not committed to drinking claret, it may often seem a wayward, unreliable wine. Not only do bottles of the same wine and vintage appear to vary—and more, I am inclined to think, than with burgundies from the same source or Rhônes—but no one is very sure how most young vintages and many immature wines are going to develop. Perhaps that is why Dr Johnson consigned claret to boys, who even if they drank it would scarcely notice the condition of the 18th-century red Bordeaux.

On the other hand, it is this unevenness of development along with its great variety, that attracts so many serious wine drinkers, particularly in Britain and the U.S. These qualities lead to discussion. Whereas it is just possible to drink burgundy in silence, claret calls for conversation.

Interest

Naturally, it is the more recent vintages that arouse the greatest all-round interest, since there are those who may still be hesitating as to whether to buy them, or add to their acquisitions; or even wondering whether they should open a bottle here and there. Consequently, as three extensive tastings in London have recently provided opportunities to look at the 1976, 1977, 1978

and 1979 vintage clarets, some comments on the wines shown may be of interest.

The chief 1976 tasting consisted of almost 50 classified growth clarets, and this was followed a few weeks ago by a tasting of 10 Médocs brought over by representatives of the growers, under the auspices of Food and Wine from France. The main impression retained is that this is a very variable vintage, until 1979 the largest in the post-war period. The petits châteaux and even some of the crus bourgeois and the crus classes tend to be light in colour and body for their age. They have the virtue of being readily drinkable, the defect of unlikely to be long-lived. The "small" wines from the châteaux that most of us have never heard of make acceptable bottles now, but those who look to the future need to be more selective.

Some well-known estates made surprisingly thin, light wines. They may have been unlucky at the vintage, when the weather was variable after an unusually early start. Those who delayed picking until the second half of September will have faced heavy rain. Another reason for light wines may have been a failure to prune severely enough.

As far as my experience goes, no one made the tough, tannic wines of the previous

year, but several were surprisingly full-coloured, including all the first-growths (save Margaux which was not included). My favourites were Lafite (not a big wine but beautifully balanced), Haut-Brion (typical red Graves, also not big-bodied) and Pétrus (surprisingly big for a vintage in which the right-bank wines

were very well balanced). Giscours, La Lagune and Rausan-Ségla (light, oak-nosed but attractive); St Emilion, Figeac and Larcis-Ducasse. The Pomerols seemed very light.

Sichel, demonstrating that it

WINE

BY EDMUND PENNING-ROSELL

were generally less successful than the Médocs and Graves. Mouton-Rothschild was a big wine too, but more forward than Latour, as usual very close-up, but not necessarily any the worse for that. The other Graves tasted were rather disappointing, except for La Mission-Haut-Brion, a very big wine for the year, with lots of body and fruit.

Of the other communes' wines, one can do little more than list those that stood out: in Pauillac, Pichon-Lalande and Haut-Bailly; in St Estèphe, Montrose; in St Julien (apparently particularly successful), Léoville-Las-Cases and Barton, Beychevelle, Langon, and Branaire-Ducru; in Margaux and other South-Médoc communes, Palmer (not big, but

presented at a tasting of the last three vintages given by the distinguished Bordeaux house of Nathaniel Johnston. Its '78s were lesser wines, but two that showed well were La Tour-de-Bas-Médoc.

At Sichel's the Château-Spleen

again stood out for colour,

aroma, and body; and other attractive wines were La Lagune

(very oaky in bouquet) and Lynch-Bages. Both the Léoville

and Langot-Bergevin were very closed-up and rather green at the moment. No doubt '78 is a vintage to buy and put aside;

for how long, no one can confidently say.

Nathaniel Johnston showed

no fewer than 29 '79s, from

petits châteaux to second-

growths. The former were

rather light, and one suspects

that in this record vintage many

of the lesser growths made

more wine than they should

have done, whereas the more

cautious bourgeois and classed

growths pruned heavily or made

a careful selection of their vats.

At this tasting well-coloured,

fairly forward wines were

shown by the bourgeois. La

Tour-de-Bas-Médoc, Les Ormes-de-Pez and Horzeville.

Among the St-Emilions Pavie

and L'Angelus had good colour

and were fairly forward, but

the Médocs impressed most,

especially the St-Julliens, the

trio of Léoville-Las-Cases, Bey-

chevelle and Ducru-Beaucaillou came out as elegant wines with a good deal of style, particularly the first two. So did the Pauillac Pichon-Lalande, which is almost a St-Julien.

The Graves were thinly represented, but Haut-Bailly showed well for colour and balance. The '78s brought over by the Médocs visitors were too few to be representative, but the good colour always an encouraging sign was noted.

Selection

Merchants here are beginning to offer these '79 clarets. Everything will depend on their skill in selection, in what must be a much more variable year than 1978, whose superior wines should certainly turn out better.

Whether consumers should buy them now will depend first on their stocks of earlier vintages, and secondly on the view taken on the 1980 vintage, now not far off. From reports so far, one can scarcely be optimistic—but a fine autumn could save it, as it did with '74 and '78. However,

'79 was such a big-vintage that there can be no shortage, though the nagging question persists as whether the more successful wines in every category will still be available a year or two hence. That is another of the hazards connected with claret.

Only for the real gamblers

WITH THE Doncaster St. Leger meeting scheduled to begin tomorrow, few people, I imagine will risk money betting on moderate horses at today's three meetings at Pontefract, Carlisle and Folkestone.

Of the three, Folkestone prob-

RACING

BY DARE WIGAN.

ably provides the best opportunities for compulsive gamblers, for Peter Walwyn has despatched Scarecrow and St Osyd to the Kent coast to contest the Winchelsea Handicap (2.45) and the Battle Maiden Fillies' Stakes (3.45) respectively. Both appear to be of better class than their opponents.

There is the prospect of an entertaining contest for the Rye Amateur Riders' Stakes (4.15) between Cettioni, ridden by Miss Francis Vittadini, and Port Aransas, partnered by Mr A. J. Wilson. Miss Vittadini is, arguably, the most proficient of our lady riders; and Mr Wilson is a hard man to subdue, as witness his sterling effort on Lumen when narrowly beaten by Mr Tim Thomson/Jones and No Bombs in the Moet and Chandon Silver Magnum Stakes at the Epsom Bank Holiday meeting.

My guess is that he and Port

Aransas, who, in addition to

winning over the distance at the last meeting here, was runner up to Gift Wrapped in the Johnnie Walker Oaks Trial at Lingfield in May, will come out the better.

Earlier in the afternoon

Rabidan, who deserves a change of luck following two close

seconds in good-class company, looks like providing the answer to the Hawkhurst All Aged Stakes (2.15).

All Regions as EBC 1 except

as follows:

BBC Cymru/Wales—4.45-2.00 pm Heads and Tails, 5.10 Bûldowcar, 5.35-5.40 Yr Awr Fach, 5.55-6.20 Wales Today, 7.00 Heddwyn, 7.20 Galr I Gall, 7.45-8.35 The High Baparrai, 8.30 am New and Weather for Wales.

Scotland—12.40-12.45 pm The Scottish News, 5.55-6.20 Reporting Scotland, 12.45-13.00 am News and Weather for Scotland.

Northern Ireland—3.53-3.55 pm Northern Ireland News, 5.55-6.20 Scene Around Six, 12.05 am News and Weather for Northern Ireland.

England—5.55-6.20 pm Look East (Newcastle); Look North (Leeds, Newcastle); Look North West (Manchester); Midlands Today (Birmingham); Points West (Bristol); South Today (Southampton); Spotlight South West (Plymouth).

12.00 Barney Miller, 7.30 Doctor Gowen

12.25 am Close; Robert Rietty with readings for Tom Kippur.

All IBA Regions as London except at the following times:

ANGLIA 9.35 am Who's Afraid of Ozars, 11.05 Tuesday Morning Film, "Carrie McNamee," 11.45 Feature Film, "Carrie McNamee," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Wales.

SCOTCH 9.30 am Lucifer, A Town Like You and Me, 10.05 Feature Film, "Hawkins," 11.45 Feature Film, "Hawkins," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

SOUTHERN 9.30 am On Seven Hills, They Built a City, 10.00 "Final Eye," starring Dennis Price, 11.45 Feature Film, "The Girl Who Came Gilt Wrapped," 12.30 pm Crossroads, 1.20 Scotland Today, 2.00 pm "The Problem," 2.30 pm Emmerdale Farm, 7.30 Doctor Gowen

12.00 Barney Miller, 7.30 Theirs is Ours.

ATV 9.45 am I Am Tonight, 10.15 Morning Cinema: "Fairy on Hong Kong," starring Virginia McKenna, 11.45 Cartoon Time, 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Northern Ireland.

BBC 2 9.35 am Who's Afraid of Ozars, 10.05 Tuesday Morning Film, "Carrie McNamee," 11.45 Feature Film, "Carrie McNamee," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Wales.

CHANEL 12.30 pm The Windrush, 1.20 Channel Four, 2.25 TV Movie: "What's On When," 3.15 Doctor Gowen, 4.00 Children's Programme, 5.00 pm News and Weather for Scotland.

LONDON 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Northern Ireland.

GRAMPIAN 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

CHANNEL 4 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

GRANADA 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

WEST YORKSHIRE 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

YORKSHIRE 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

ST. MARTIN'S 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

ST. MARY'S 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

ST. MARY'S 8.30 pm First Thing, 9.30 The Human Face of China, 10.30 TV Movie: "The Last Days of Pompeii," 11.45 Feature Film, "The Last Days of Pompeii," 12.30 pm The Roundabout, 1.20 Home and Road and Weather, 2.20 Home and Road and Weather, 3.00 pm News and Weather for Scotland.

THE ARTS

Edinburgh Festival

The Lighthouse

by ANDREW CLEMENTS

In December, 1900, a lighthouse supply ship on a routine tour of duty visited the Flannan Isles light in the Outer Hebrides. It found the lighthouse deserted; the beds and table appeared to have been left hurriedly, and the lamp was out, though in full working order. There was no trace of the three keepers. What became of them remains one of the mysteries of the sea, and the tale is the starting point for Peter Maxwell Davies's new chamber opera, which received its first four performances at the Moray House Gymnasium during the last week of the festival.

Davies has not attempted to resolve the riddle of the disappearance, merely, he says, to indicate "what might be possible under the tense circumstances of three men being marooned in a storm-bound lighthouse long after they expected to be relieved."

The opera is divided into a prologue, which opens at the court of inquiry into the incident and relates in a series of flashbacks how the officers of the supply ship came upon the lighthouse, and a main act subtitled "The Cry of the Past," in which the keepers' long history of the lighthouse is chronicled.

The result is the most cogent and direct of Davies's dramatic scores. The forces are economic: three singers take the

parts of both officers and keepers; the familiar Fife of London complement of seven is augmented by horn, trumpet and trombone, viola and double bass; the staging is intended to be simple, though not perhaps as primitive as the one we saw at Moray House. But the key to the success of *The Lighthouse* is in the composer's own libretto.

The text is elegant and to the point; its images are compelling. The main action inhabits a world of very recognisable fears and guilt, and suggests the stifling repression of Victorian Scotland, though the climax — the keepers driven to insanity by the reappearance of ghosts (or devils, or anti-christs, call them what you will) from their respective pasts — is yet another exposition of a theme that has obsessed Davies throughout his composing life.

The prologue makes its points with the minimum of fuss. The three officers, interrogated by a solo horn placed in the auditorium, relate confused, contradictory stories: how they found no one at the jetty to meet them, how the lighthouse was overrun by rats, with chairs upturned and food mouldering.

How it was boarded up and the light made automatic. The main act can then present the three keepers, Arthur (bass), a relentlessly fanatic always at odds with Blazes (baritone), amorous and amorally, Sandy (tenor) romantic,

less extreme, attempting to reconcile his colleagues. As centrepiece Davies establishes their backgrounds in a sequence of popular songs. Blazes, in a music-hall patter song accompanied by banjo, fiddles and bones, tells of a violent upbringing in a big city, ending with his murder of an old woman, a crime for which his father was hanged. Sandy sings of less adolescent love in a Victorian ballad, with sentimental piano and out-of-tune piano. Arthur launches into a revivalist hymn with a band of clarinet, tambourine and brass.

The seeds of self-destruction sown, the climax is swift and horrifying. The lighthouse is enclosed again by mists, hope of relief recedes. Disturbed by Arthur's rantings, the three begin to hallucinate. Blazes is haunted by the ghost of the woman he killed; Sandy by the realisation that his forgotten love affair was homosexual, forbidden. Arthur sees lights approaching, the Beast from whom God has failed to protect him. The lights move nearer, until they dazzle the audience: when they are extinguished the officers, and the lighthouse are seen. They blind that they were attacked by the crazed keepers, but the truth will be suppressed, the men will have just disappeared. The light becomes automatic and the ghosts of the keepers take their places.

The way that Davies builds

and controls this climax is enormously impressive. One has long hoped that he would find a synthesis between the dramatic directness of the music-theatre pieces and the sureness of line of his recent Orkney work; in *The Lighthouse* this is finally achieved. Many of the expressionist shock tactics are here, but subdued and more effective; the well-worn techniques of parody are worked upon the keepers' songs, turning into the material for catastrophe. There are imaginative subtleties too — the officers' account of their approach to the island, bemused, ebullient music, the end of the prologue built upon the rhythm of the phrase "the lighthouse is now automatic," the lonely violin solos which permeate the main act, the early recapitulation as the ghosts appear in the final bars. Davies has not attempted such a barrowing, human theme before, nor fulfilled a dramatic plan with such complete success.

Performances — I heard the third night — were all devoted and heroic: from Neil Mackie, Michael Rippon and David Wilson-Johnson as the protagonists, and from the Fife of London conducted by Richard Dufallo. The production was subsidised to the extent of £20,000 by Tennent Caledonian; rarely can commercial sponsorship of new music have been so richly rewarded. It must be staged very soon, in London.



Sue Davies, the director, in the new headquarters of the Photographers' Gallery

Trevor Humphries

The Photographers' Gallery

A Coming of Age

by WILLIAM PACKER

It is hard today to remember, so obviously important is the position it now occupies in our photography-cum-art world, quite how radical and risky a venture the Photographers' Gallery seemed to be at its inception, all of those nine years ago. But it was the first independent gallery in London to devote itself exclusively to photography, and it did so at a time when the photograph's standing as Art was a question very far from resolution. In January 1971 the more general economic portents, too, were hardly propitious — and we know too well what has happened to our dear economy since then.

Sometimes, however, difficulties do go away, or at least diminish themselves, if disregarded: the Photographers' Gallery, under the direction of the admirable Sue Davies, flourished from the start, demonstrating at once by its invaluable service it provided the clear necessity for its existence. Moreover, it blithely assumed the intrinsic worth of the material it showed, justified it in a sequence of historical and contemporary shows, and thus not so much won as brushed aside the argument of status. If the photographer may be an artist, his work may be Art; and so we were moved briskly on to the work itself, on its own terms and for its own sake.

The Gallery was always intended to be much more than simply a showing space, and indeed as book shop, print shop, library, and information exchange it has long been a true centre for the community of photographers, the envy of those working in all other disciplines: and though it may have its quiet days, I have never known it to be empty. And the pressures of such useful success have worked upon it to the point when it must either expand or explode.

The necessary expansion is what we celebrate today. The old premises at 4, Great Newport Street remain, housing the now relaxed though larger bookshop to the front and still the large gallery behind; but where three, sometimes even four shows had somehow been crammed together, now but one; or perhaps two need be accommodated and in great comfort. And three

doors away Sir Joshua Reynolds' old house, a building listed as much for the sake of its pre-war remodelling as for what remains of the original, has been taken over and handsomely adapted as the new headquarters. Offices, workshops, print and reference libraries, and a department for the sale of photographic prints are all in the house itself, with the corridor alongside set up as a smaller showing space; and at the back a former workshop has been opened up to make another major gallery, one which can readily serve as a lecture hall. Altogether the space available for exhibitions, to say nothing of other things (there is also a bar), has effectively doubled.

All this has cost a great deal of money, of course; the good news is that the gallery has managed already to raise some £240,000 towards the capital cost of the lease and the conversion, while the Arts Council has doubled its revenue grant which covers the practical costs of running the place, a sum which now stands at £80,000. The bad news is that £80,000 is still needed — but optimism rides high; and indeed it is hard to believe that an organisation that attracts rather more than a 0.25m visitors a year should stumble at the last over the price of an ageing footballer.

And so it is that the new building opens its doors to private view today, and to the public tomorrow, with the international prize exhibition "World Press Photo" (come to England for the very first time), occupying the main, which is to say the Tom Hopkinson Gallery. The Press photographer's is an exacting calling, requiring sound technique, the quickest reflexes and a good eye, all of them founded on a quick wit and common sense. It is a visual trade in which immediacy and topicality, the virtues of being there rather than here, often over-ride more formal considerations, a great shot apparently all content and no form at all. It is not that it has no aesthetic, however, but rather one of a very particular kind, for the true Press photographer will make instinctively the adjustments and accommodations that mark him as an artist, while still serving the moment and the material of his story. And some of the most remarkable, and memorable images of all have been

labyrinthine installation contrived by Andrew Lanyon, which leads the increasingly captivated viewer through a gentle spoof history of early photography, full of excellent jokes and charming working models and displays.

In his Vanishing Cabinet, Lanyon takes Lewis Carroll as his guide, picking up the clues that were put into Alice's mouth, and following her trail into what Carroll evidently found that enchanting wonderland of gadgets and chemicals, tricks, illusions and contradictions, what with its negatives and reversals, its vanishing distortions, shrinkings and enlargings, the photographer himself disappearing behind his machine, or into his mysterious laboratory. Lanyon's delicate surrealist touch never lets him down with material that could so easily turn into archness, sentimentality and facetiousness. His collages and other illustrations are delightful; and the step pyramid at Sakkara, showing bellows structure built more than 5,000 years ago "gives us all much to ponder."

The Vanishing Cabinet continues until September 28, World Press Photo (with help from the Sunday Times) and The Heart of the Country until October 5.

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Final concerts by ANDREW CLEMENTS

It is becoming something of a tradition for the last morning of the Festival to contain a musical highlight, by the Amadeus Quartet. So, on Saturday they appeared at the Queen's Hall for a programme of Haydn, Mozart and Beethoven. To anyone used to the fragile, nervous performances that the Amadeus give too often given in London in recent years, the event must have been reassuring. The impoverished acoustic of the Elizabeth Hall does not flatter them nowadays, but the warmth of the lovely Queen's Hall furnishes their sound, and with such encouragement the players could relax. Norbert Brainin in particular

The success of their concerts now hangs crucially on Mr. Brainin's state of mind. Here

he was composed, genial from the outset, turning the first movement of Haydn's Op. 74 no. 1 into a brilliant jeu d'esprit, finding a delicious staccato (spectacular almost) for the headlong rush of the finale. Mozart's D minor quartet was equally supple, the opening theme emerging regrettably almost lazily, ent' a haze coloured by Peter Schidlof's viola, the siciliano rhythm of the "female" lovingly shaped. Traces of strain; some scrambled passage work showed in the second Razumovsky, but these were only fleeting blemishes; the impression of boundless generosity of spirit was sustained to the end.

Generous spirits also for Saturday's final concert in the Usher Hall. The London

Symphony Orchestra, in its third concert at Edinburgh this year, was conducted by Claudio Abbado in Debussy's Nocturne (the sirens of the lost movement curiously chaste and unrespective) and Ravel's La Valse (an equally sanitised account, even the wonderfully vulgar trumpet smears at the final climax underplayed). The second half was an experiment. When plans were made for the festival to end with Berlioz's Te Deum, the state of the Usher Hall organ was found to be inadequate for the important solos. The organ at St. Mary's Cathedral, a mile away, was used instead; the sound was relayed to loudspeakers in the roof of the hall for the final calls; a good time was had by all.

Another yard of Fringe

by B. A. YOUNG

You can't see more than a tiny fraction, perhaps 1 or 2 per cent, of the fringe theatre when the official programme is so generous. I have learnt to take it for granted that most of the companies are there for their own pleasure as much as anyone else's, so I choose my programme for own pleasure too, two or three fixtures a day for a week counting as pleasure for the looks to new writers more than new performers. The student who believes that his Richard III will see him straight to the Royal Shakespeare Company must find a recommendation elsewhere; I will be searching out the new Stoppard, next year's Beckett. I haven't found him this year; the mood among the young writers is still a belief that if they present their facet of our unstable society they will have contributed towards a better world. At the most nihilistic, like fake James MacDonald's Too Many Monkeys, one of the National Student Theatre's offerings.

Here is a single-parent family consisting of a foolish woman who consistently declines any kind of official help although she is burdened with a son, Benny, born

without limbs as the effect of thalidomide, and a daughter, Mona, subject to epilepsy. The plot reveals Benny as a sharp little monster prepared to use his cunning brain to get what he wants at anyone else's expense, which at least isn't propaganda on one side or another. What Mr. MacDonald achieves by showing this household of three useless folk I don't know; as he admits, it's not a story about the cast. Tobacco and boys are what Marlowe said we should all go for, but only one of the two pre-school masters in Mr. Fry's play loves boys, and neither of them smokes. What the other master likes is being beaten, and he persuades the pedantic one to do this for him as his price for not telling the authorities about the scandal he has discovered. Neither of these two ushers is fit for the staff of any school but Llanabha Castle, but the fact is that when we see them teaching they do it very well, which raises an interesting point that Mr. Fry doesn't pursue. Improper the play may be, but it is excellently written and excellently played.

Steven Morris's two one-act pieces, put on at Belford Church by a good little company from the University of California, Los Angeles, can be described as the same only different. It's family tensions again, but at least the families don't come from the British middle-class. The eponymous Martha in Confessions of Martha Roe is bored with her husband, who is bored with her, but the way she shows it in her 40-minute soliloquy (ably spoken by Linda Burgess) is to invest a milkman-lover dead and decaying on the doorstep. I found this "funny as it was chilling." Sketches, the other play, is defined by its title. Once more, its content is domestic: a retarded girl releases her father's cattle, they graze on a neighbour's precious garden and die from killer. The story is told in an unorthodox way as a series of soliloquies. This lets the company display their individual talents, but denies us the chance of seeing if Mr. Morris can write a good developing scene, which is what I mostly wanted to see.

There are half-a-dozen companies from California on the fringe, though not our old friends from the University of Southern California. Altogether there are 14 fringe companies from the U.S., three from Canada, two from France, Belgium, Holland, and a German girl running a smashing little snack-bar in the other extreme.

George Bernard Shaw wrote a letter to The Times in 1905 complaining about the lax rules applied to the dress of women opera-goers. The incident which particularly rankled was his feeling of nausea at the sight of a dead bird attached to a lady's hat. What would his reaction be now, when philistines are encouraged to rub shoulders with regular opera buffs? This rabble does not go in happy expectation of the perfect extroversion of virtuoso singing. Royalties will go behind the scenes. Royalties will be in opera buffoonery. Barry Hewlett-Davies has added

called the Berlin Cafe where you can get Kaffee mit Schlagsobers. The Cambridge Mummers, whose production of The Roaring Girl was reviewed here earlier by Michael Coweney, Latvian or Tobacco and Boys, by Stephen Fry, who is also half the cast. Tobacco and boys are what Marlowe said we should all go for, but only one of the two pre-school masters in Mr. Fry's play loves boys, and neither of them smokes. What the other master likes is being beaten, and he persuades the pedantic one to do this for him as his price for not telling the authorities about the scandal he has discovered. Neither of these two ushers is fit for the staff of any school but Llanabha Castle, but the fact is that when we see them teaching they do it very well, which raises an interesting point that Mr. Fry doesn't pursue. Improper the play may be, but it is excellently written and excellently played.

Real small boys can be seen in the Children's Music Theatre, and small girls too. This is Jeremy James Taylor's bunch of sub-pubes promoted to a new name (and God grant they may not be tempted to put a "National" in front of it and expect state assistance). I saw them in Copia's Stirrups, a sinister piece by Mr. Taylor and David Scott, that begins like The Beggars' Opera, continues like a liberalized Oliver Twist and concludes with some terrifying fantasies. Mr. Taylor drills his children well, and I liked the play enormously.

There is a likable performance as Ned Stirrup, a boy gang leader who heads a bunch of 19th-century punks at Bartholomew Fair by Julian Silvester, a 19-year-old from Hobberdasher's Aske's School.

The theme of the third festival was Romeo and Juliet, and again Marlia's rich programme, though concentrated in less than a fortnight, included dance, theatre (Lope de Vega's Castelarne y Monteses), poetry readings, scholarly discussion, concerts, and films. As in the past, the heart of the festival remained the splendid Villa Reale of Marlia with its magnificent outdoor settings, including a "green theatre" of privet, but several festival events were also scheduled in Lucca. And it was there that the festival ended, with two staged performances of Bellini's I Capuleti e i Montecchi.

Romeo and Juliet were set up in Ammanati's Cortile degli Svizzeri, so the action of the drama was played against the 14th-century apse of San Romano. For the rest, Aldo Trionfo's staging was generally simple. He made the mistake of fixing a vast, rumpled bed in the central, lowest platform. Romeo and Juliet were

A Night at the Opera'

new dimension to what was a noble art form — that of the unexpected and often disastrous. A Night at the Opera (Weidenfeld and Nicolson, £4.50, 180 pages) consists of an hilarious collection of vignettes, reminiscences and contributions from celebrated singers, conductors, composers, actors and writers on their experiences at the opera. The more elevated the scene the more excruciating their downfall. The author has given us some rare glimpses before and behind the scenes. Royalties will go behind the scenes. Royalties will be in opera buffoonery. Barry Hewlett-Davies has added

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Tuesday September 9 1980

A setback for the NPT

WHEN THE nuclear weapon States embarked upon the second review conference of the Non-Proliferation Treaty last month, they hoped to be able to strengthen international safeguards against the possibility of more nations acquiring nuclear weapons. With the peaceful use of nuclear power poised for considerable expansion in the 1980s, especially in the Third World, the U.S., USSR and Britain recognised a need for tighter safeguards against any temptation to divert nuclear materials and skills from reactors to weapons.

Restrictions

The nuclear weapon States emerged from the review conference at the weekend having apparently lost considerable ground. They have wholly failed to persuade the Third World to accept the restrictions and constraints associated with an effective safeguard against proliferation. None of the 115 signatories to the NPT has elected to drop out, but many have made it plain that they can see more drawbacks than benefits for themselves.

The outcome must surely persuade the weapon States that threats are no way to advance what is essentially a moral case for supporting the NPT. Threats have been uttered for 35 years, since the post-Hiroshima schemes put forward by the U.S. for international control of atomic energy and, as the phrase was then, "condign punishment" of States which stepped out of line. They have not prevented five other nations from exploding nuclear devices, and several more with well developed technologies from resolutely remaining outside the treaty.

Frustration with India, which had pursued a nuclear weapons development programme to the point of an explosion in 1974, led the U.S. and Canada to adopt a rigid "policy of denial." The effect of this policy has been to damage the delicate fabric of the NPT. It has led directly to the debacle of the review conference. At the same time President Jimmy Carter himself, as chief proponent of the "policy of denial," has underscored its weakness as a policy by declaring his willingness to supply India with nuclear fuel even though it still refuses to sign the NPT.

Danger signals in Korea

POLITICAL repression in South Korea give legitimate cause for anxiety. The west has a strong interest in a stable and responsible regime holding power in Seoul. Thirty years ago a bitter war was fought under U.S. leadership to prevent the country being swamped by the Communist-controlled northern section of the Korean peninsula. Much has changed since then. But the North has not buried its ambitions and geography has not altered: less than 200 miles separate Korea from the Japanese islands.

But for western support during and since the Korean war there would be no South Korean state. Over and above that, the outside world has funded a large part of South Korea's ascent into the ranks of the coming industrial powers. South Korean foreign debt exceeds \$20bn.

President Carter last week sent a message to the newly installed South Korean President and dictator, Chun Doo Hwan, expressing concern about the repression sweeping the country. The Press always has been controlled, yet the military regime has found it necessary to suppress more than 100 periodicals. Early last month 18,599 "hooligans, drug pushers, extortions, and habitual gamblers" were arrested. The nomenclature has a depressing familiarity from other dictatorships.

Western aid

Best known of all, Kim Dae Jung has been put on trial for his life on charges that appear highly questionable. Kim received 45 per cent of the votes when losing the presidential elections of 1971 to General Park Chung Hee. He went to Japan but was kidnapped and taken home by agents of the Park regime, to the lasting anger of the Japanese. More than once his life has hung by a thread. Kim is a threat to the regime, because he could serve as a crystallising point for opposition.

Current events were set in train last October when President Park was assassinated by one of his officers. Power temporarily reverted to a group of older generals who appear to have been ready for a degree of liberalisation as demanded by intellectuals and students (though the majority of the

population still seems ready to suffer authority with Confucianist reverence). Expectations were promptly raised.

In May, an uprising in Kwangju, capital of Cholla province which tends to resent Seoul supremacy, was fiercely put down. So were student riots in Seoul. General Chun may have used these riots as an opportunity to set himself up as the man who restored stability and order.

The last year has demonstrated that authority in South Korea may be more brittle than appears. The country is undergoing those pressures for liberalisation that grow in most societies as they enter the industrial age. An economic setback has aggravated them. In its very different way, Brazil faces a similar problem.

Moral pressure

President Chun has offered at least lip service to the need for a modicum of reform. His proposed constitution has not been published. But the Press has suggested that the people themselves might be allowed to choose the electoral college for the presidential elections promised by mid-1981. Under the Park regime the college was packed by the Government and even now there is little doubt that the ruling clique will see to it that President Chun duly re-elected for a seven-year term.

The pressures that the outside world can bring to bear on President Chun are limited. There are 39,000 U.S. troops in the country, but any threat to withdraw them would almost certainly be empty. Washington talked of the possibility a few years ago, but strategic reasoning prevailed. Experience shows that moral pressure from abroad counts for little in Seoul. Financial pressure would pose its own problems.

The fact of the matter is that democracy cannot be imposed from the outside. Nor can the West automatically assume in its dealings with the Third World that European or North American style democracy is the acme of political perfection. But even in Korea the late Dean Ing's dictum holds good — "a man may build himself a throne of bayonets, but he cannot sit on it."

Guy de Jonquieres looks at the long-term strategy of the Japanese computer industry

Microchips: Japan expands its bridgehead in Europe

JAPAN'S MAIN COMPUTER AND ELECTRONICS COMPANIES

FUJITSU

HITACHI

NEC

TOSHIBA



Japan's largest computer maker with revenues of \$1.2bn in the year to March 1979. Fujitsu recently set up a joint venture with TRW Inc. of Ohio, to compete in the U.S. market for small and medium-sized computers. Fujitsu has already formed links with a number of

European electronics companies such as Siemens and Scosima of Spain, and is to set up a \$42m plant in Ireland. Olivetti is marketing in Europe a computer system jointly developed by Fujitsu and Hitachi.

Hitachi, Japan's largest general electrical machine maker, last month reported an 18 per cent rise in orders, largely due to increased demand for computers and semiconductors. Hitachi, which agreed to exchange

technical information with ICL in 1978, also has links with Durr in West Germany, and National Semiconductor in the U.S. Its computer revenue in the year to March 1979 was about \$751m.

Nippon Electric (NEC), the tenth largest supplier of integrated circuits to Western Europe, may build a £20m microchip plant in Scotland. It already has a West German assembly plant and plans to shift more of its

semiconductor production abroad. Two years ago NEC bought Electronic Arrays of California. Annual revenue from computers amounted to \$731m in the year to March 1979.

Toshiba — whose largest single shareholder is General Electric of the U.S. — plans to begin production of semiconductors in the U.S. by the end of the year. Two years ago it

set up a joint company with Rank to manufacture televisions and export them to Europe. Computer revenue amounted to \$1.22bn in the year to March 1979.

Mitsubishi, Japan's largest trading company, set up Melcom Business Systems, a U.S. subsidiary, in Compton, California, two years ago. Melcom imports small-business computers and plans to assemble them in the future. Sales of Mitsubishi Electric rose 17 per cent in the

year to March 31. Revenue from computers amounted to \$1.21bn, 31 per cent of the total.

Mitsubishi, which has a TV plant at Arlinton, California, plans to double production of colour TV sets to 240,000 units by 1981.

The Japanese are also active in marketing computer peripherals equipment, such as terminals and data storage devices. Dr Peter Walker of Mackintosh Consultants, which analyses the electronics industry, foresees a major battle looming between Japan and the U.S., which supplies about 80 per cent of European computer peripherals. "I am very concerned at the threat to European manufacturers unless urgent action is taken," he says.

The range of products covered by the term peripherals is growing constantly wider, as technology makes it possible to hook equipment like office copiers, facsimile machines and word processors into computer systems. Japan is a strong competitor in these markets, too, and has sold Xerox by its success in selling copiers.

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Observer

David Fishlock considers issues raised by the high cost of new surgical techniques

A modern medical dilemma

WHEN DOES research on patients become a successful and economically justifiable new technique of medicine? The question is an old one which was given prominence last week by a fresh furor over heart transplants at the annual meeting of the British Association for the Advancement of Science in Salford.

In the film research programme of heart transplantation began a year ago by two British heart centres — Papworth Hospital, Cambridge, and Harefield Hospital, Bucks — the expense and justification was challenged by the director of the Unit for Study of Health Policy at Guy's Hospital, London. Heart transplants were "tragically inappropriate if not obscenely irrelevant" to the problem of heart disease, alleged Dr. Peter Draper.

Heart transplants will probably never solve more than a small proportion of heart disease problems. The fact of the trouble usually lies outside the heart itself and the transplanted heart soon succeeds to the same trouble. Dr. Draper, a longstanding critic of the medical establishment, believes that Britain is lagging behind such countries as the U.S. and Finland in preventing the onset of much heart disease. He wants to see more Government resources channelled into preventive medicine rather than into heroic surgery on the very sick.

Transplants are not merely inappropriate for most cases of heart disease at present; they are so stressful mentally as well as physically, as to seem unsatisfactory for anyone over 60. So the health service needs to take care that a disproportionate share of operating theatre resources are not channelled to helping the few at the expense of the many.

Ministers and senior officials of the Department of Health are acutely aware of the financial

THE COSTS OF A HEALTH SERVICE HEART TRANSPLANT (1978 figures)

	£
Pre-operative assessment	3,087
Operation + 27 hospital days	3,177
Staff: medical	983
nursing	3,241
ancillary	1,089
Pathology	170
Radiology	442
One-year outpatient follow-up	375
	£12,564

Source: *Medeconomics*, May, 1980.

risks of experimental medicine. But they admit they are "just emerging from the Stone Age" in terms of being able to manage medical costs.

Some well-established surgical procedures such as the removal of a lung for cancer have never been shown conclusively to prolong the patient's life. Few attempts have been made to cost accurately the price of curing the patient. About the best they can do much of the time is to try to spot the anomalies — for example, when a surgeon is trying something new and incure expenses out of line with his previous performance. And not just surgeons — they were rocked recently when blood disease doctors ran up a bill of £50,000 for a novel medical treatment for two patients with haemophilia.

The Office of Health Economics, think tank of the pharmaceutical industry, pointed out recently that success in treating the cancer which causes leukaemia, by bone marrow transplants, threatens to become a financial embarrassment to the

Health Service. It estimates the cost of a bone marrow transplant at £50,000-£60,000. In addition the patient requires preparatory treatment costing another £5,000-£10,000 before he is ready for the operation. Currently British hospitals are treating about 50 a year, but the economists estimate demand at 200-500 a year.

The "test-tube baby" technique for extra-corporeal conception by infertile women threatens to be still more embarrassing, for no life is at risk here. The technique, after 15 years' research by Dr. P. C. Steptoe and Dr. R. G. Edwards, and only one or two successes, is still highly speculative. But with the researchers claiming a waiting list of 1,000 women for the pair of operations involved, the Department of Health has no doubt of the determination of infertile women to rectify their problem if the opportunity should ever arise.

Nevertheless, the men from the ministry say they want decisions on the allocation of resources for acute problems to

remain at local level. They have great confidence in "peer criticism" within the medical profession to ensure that individuals do not make unwarranted demands on their caseload. They point to the way surgeons with specialties ranging from life-saving kidney transplants at £30,000-£40,000 a time to cosmetic implants of silicone resin which enhance the contours of the female breast ask their colleagues: "Am I doing too many at public expense?" They have faith, they say, in professional pressure preventing consultants aspiring to be "hero of the day."

"The Rothschild principle has been tested and found wanting," concluded the British Medical Journal. All attempts to identify practical priorities for research had failed. Not least of the consequences is that the Department of Health is very wary today of trying to "dictate what medical researchers should be doing" of designating either priorities or areas which they should avoid.

"The political pitfall for the Health Minister hardly bear thinking about. And we'd

probably get it wrong too," says a senior official safely.

Sir Douglas Black, the former chief scientific adviser at the Department of Health, staunchly defended the two transplant research teams. Heart transplants were at the stage reached by kidney transplants three decades ago.

Sir Douglas himself speaks with considerable feeling, as the man who had to implement what is known in the trade as Rothschild's "customer-contractor relationship" for the funding of medical research.

Lord Rothschild, as first head of the Central Policy Review Staff (Think Tank) in 1970,

took a look at the correlation between British medical research objectives and hospital bed occupancy. He found none whatsoever.

Bigger say

His idea — that the Department of Health as the "customer" should have a much bigger say in how the medical scientists spent public money — was vehemently challenged by the researchers. They lost at the time. But an independent review in the late 1970s suggests that they won in the end. The best of them continued to pursue the kind of medical research that excites and motivates them, rather than research commissioned "in the

1970s" by the Department of Health.

It proved to be an expensive

failure. The complex technology of heart transplantation was not yet ready for transfer to another country, and cer-

tainly not ready to be trans-

ferred by a surgeon who had

spent only a few months at the

Shumway success rate.

Even so, Dr. Hampton admits that his figures cannot reflect the full cost at this stage. "So

long as a medical technique is

new and exciting, doctors, nurses and technicians will happily work very unusual hours to get something done."

The enthusiastic heart surgeon himself will fly round collecting hearts — which, unlike kidneys, must be transplanted fresh and work all night at the opera-

tion while continuing during the

daytime with his routine list.

Dr. Hampton contrasts the current cost of grafting a £500

heart valve of plastic into a

living heart. "Technically a heart transplant is not very

much more difficult than a valve

replacement," he says.

The accompanying table has

been compiled by Dr. John

Hampton, a heart specialist at

Nottingham University Hospital,

using Department of Health

figures. It shows the cost of

the current UK transplant pro-

gramme.

Last year Britain's heart

specialists decided that it was

time to try again. But this time,

instead of the unseemly

scrabble for headlines of the

late 1960s, they agreed to an

orderly programme based on

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ned to perform a couple of

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Even so, Dr. Hampton admits

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The enthusiastic heart surgeon

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Dr. Hampton contrasts the

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The accompanying table has

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BTR sales and profits well ahead at midway

HIGHLIGHTS

SALES OF BTR, the general rubber manufacturing group, rose from £219.5m to £250.5m in the first six months of 1980 and pre-tax profits were higher at £8.4m compared with £5.7m in the same period last year.

This time, the profit is before reducing exchange fluctuations of £1.6m.

The directors are effectively lifting the interim dividend from 12.5p to 5.25p—the total dividend last year was equal to today's important banking figures and draws some lessons from yesterday's news on wholesale prices and retail sales.

First half profits are after 7.860 additional depreciation charge arising from revaluation of overseas assets and a £566,000 credit being the share of undistributed profits of Bestobell based on the latest published accounts.

The Board says the half year results include substantial gains in all countries except the UK where the rate of improvement in the year was not sustained against the prevailing reduction in demand. The strength of overseas earnings continues.

	First half 1980	1979
Europe sales	£m	£m
Western region	33.1	32.2
Eastern region	5.5	5.0
Total sales	250.5	219.6
Exchange fluctuations	8.2	—
Leaving	241.3	219.6
Western profit	22.0	19.0
Western region	7.1	2.9
Pre-tax profit	36.4	27.4
Exchange fluctuations	1.6	—
Net	12.5	10.7
Vincent	1.8	1.0
Attributable BTR	19.3	15.7

Lex Back Page

RECEIVER APPOINTED

Mr. Anthony P. Locke of Robson Rhodes has been appointed receiver, under debentures of Linds and National Westminster Banks, for Oriole and Stevies Signs, the two principal UK subsidiaries of Movielex, the listed record pressing and signs company whose shares were suspended on September 3.

Melody Mills falls and omits final

TAXABLE profits of Melody Mills, wallpaper manufacturer, slumped in the year to March 31, 1980, to £390,552 compared with £825,933 for the previous 12 months.

Most of the setback occurred in the second six months when the surplus dropped from £515,933 to £160,852.

Despite a recovery in the second quarter of the current year, the directors consider it prudent to conserve resources and they have decided not to recommend a final dividend. This leaves the total for the year at 1p net, compared with an effective 3p after allowing for the one-for-one scrip issue.

Turnover for the 12 months showed a slight setback at £9.6m (£9.92m) and after a tax credit of £156,321 (£206,280 charge) earnings per 25p share are given as 13.73p (17.52p).

At midyear, with profits showing a fall from £310,000 to £200,000, the directors said that the second quarter of the year had not come up to expectations.

Demand was well below normal, they said, and competitors had utilised spare capacity to produce special offers at very low prices.

This had made it very difficult to fully recover raw material and wage increases which had been taking place.

This situation had also affected the third quarter but the directors said at the time that the company had a reasonably full order book and they were making satisfactory results for the year.

FIRST QUARTER SALES IMPROVE

Mr. Derrick Cowan, chairman of Cowan, de Groot, said at yesterday's annual meeting that first quarter sales were marginally ahead of this time last year, and barring any unforeseen circumstances, he again expected satisfactory results for the year.

every effort to improve the situation still further.

Commenting on the full-year figures, the directors say the sharp reduction reflects a fall in demand, with lower margins both at home and abroad. The company has continued to suffer from special offers of wallcoverings at uneconomic prices they add.

The position has deteriorated further in the current year, with the company trading at a loss for the first three months. However, the directors say the company is now trading at a profit and has increased its share of the market.

The order book is reasonably good and substantial overtime is being worked.

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AS REPORTED last week, turnover and profits of Haynes Publishing Group fell short of estimation for the year ended May 31, 1980.

Turnover for the period was £4.52m (£4.1m) and the taxable surplus was £670,000.

Last November, in the offer for sales, sales within the range of £5.1m and £5.45m, and profits between £870,000 and £1.1m were forecast. On September 2, Mr. Frank Day, chief executive of Haynes UK operations, publishing workshop manuals for cars and motorcycles, said, however, that profits were likely to be below the £797,000 for the previous year.

The directors now state that the first assumption, made in the offer for sale, was that the seasonal trend of sales would be similar to 1978-79, did not occur in the home market as many customers at both the wholesale and retail level engaged in a policy of across the board product de-stocking of "unprecedented severity."

This occurred at a time when the company would normally have experienced an important seasonal increase in sales, the last quarter previously being responsible for a disproportionately large share of the year's sales.

The directors say the shortfall in projected sales in the last quarter was in excess of £550,000 and because of the importance of profits of these marginal sales, "this has led to a decrease of more than £200,000 on the minimum profit anticipated."

They believe, however, that the group has adequate resources for its current trading and expansion programme during the rest of 1980, and will not need to enter into agreements to secure loan capital to further growth.

First quarter sales are more than 25 per cent higher and, following the period of de-stocking there is every sign of demand having returned. And the company is supplying major contracts both in the UK and the US, which they say, will have a beneficial effect on results for 1980-81.

The directors say sales of

the establishment of an editorial team in America, to originate workshop manuals for vehicles manufacturers, has been accomplished on a larger scale than had originally been envisaged, and new titles will shortly be coming through on a regular basis which will con-

tribute to the group's development, the directors state.

• comment

The market may forgive but should not forget these very poor results from Haynes. Disastrously short of the projected forecast and 18 per cent below the comparable period the figures are hardly a happy read, especially as the latest profit includes a £36,000 exceptional credit. However, Haynes management may be forgiven. The NGA strike, adverse dollar pound parties and, most importantly, drastic retainer impacting in the final quarter have worked to upset the November forecast. The prospectus gave some indication of how vulnerable Haynes is to heavy expenditure in the U.S. and these figures really do bring that lesson home. But if marginal sales worked against Haynes last year the build up of the U.S. market could swing the balance in a big way. The potential seems there. The U.S. market is six or seven times bigger than the UK and Haynes has only carved out 15 per cent of the market against 70 per cent at home and a lot of the costs of establishing itself in America have already been written off. It could be good but after yesterday the market will undoubtedly be cautious and at 12.5p a p/e of 11 is hardly cheap.

The sales and trading profit,

as shown in the U.S., were up by 39 per cent and profits were at satisfactory levels.

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• comment

There is some irony in that the smaller whisky and housebuilding parts of the group have improved while the main corpus—lead acid batteries—has suffered a 21.8 per cent fall in trading profits. The battery problem, resulting from a mild winter and customer destocking, is one.

The interim dividend is maintained at 2.05p. Last time a total of 2.575p was paid from pre-tax profits of £1.78m. Earnings per 25p share are given as 17.2p (18.1p), after a tax charge of 28.62p (29.000).

Following an extremely difficult trading period, taxable profits of C. D. Bramall fell by £38,000 to £18,000 in the half year to June 30, 1980.

Mr. Tony Bramall, the chairman, says in his interim report that while it is difficult to forecast dry significant improvement in the group's trading performance during the current six months, "there are areas of brightness which give hope for an outcome not too dissimilar from the results for last year."

Looking ahead, Mr. Bramall states that the new Ford Escort

should, subject to reasonable supplies being available, give the group's sales departments a boost during the current six months.

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After deducting customs and excise duty of £21,24m, compared with £22,44m, turnover for the year ended March 31, 1980, was £32.5m, down from £39.8m to £32.5m, for the year to April 30, 1980. Pre-tax profits of the wine and spirit shipper and merchant and British wine maker improved from £2.23m to £2.66m.

Pre-tax profits for the first eight months of 1979-80 were up from £1.68m to £2.17m. Directors sat in their interim report that although it was not expected that this rate of growth would be maintained during the final four months, the profits for the full year were likely to be higher than those for 1979.

The tax charge this time was £1.49m, against £1.40.042 last time. The attributable profit was down from £1.01m to £842,389, after minorities of £304,110 (£267,015). The total net dividend is increased from 7.3p to 7.5p by 5.5p.

The directors say sales of

spirits and ginger wine have remained disappointing during the first four months of the current year. In these conditions, they say it is not possible to forecast how 1980-81 will turn out.

• comment

The 19 per cent increase in profits at Matthew Clark is attributable entirely to J. E. Mather, the British wine business. Even the higher minorities figure does not indicate the full extent of Mather's trading improvement as its tax charge is a good 15 per cent higher owing to a deferred tax write-back. The factors which helped Mather towards the end

of the year, downgrading in particular, have been squeezing the company's market share.

Industry figures show sales of British wine rose by over a quarter in the final six months of Clark's year, in sharp contrast to the stagnant spirits position.

Clark has, however, negotiated more favourable credit terms on Martell supplies so, while stocks were substantially higher, year-end borrowings were cut back by around £1m to £1.5m. Clark's dependence on the continued growth of the British wine market is a little worrying but the fully-taxed p/e of around 6 is not asking a lot. At yesterday's price of 13.6p, the shares yield 8.2 per cent.

As reported on August 6, the company incurred a taxable loss in the year to March 31, 1980, of £247,000, compared with a profit of £749,000 for the previous 12 months. Shareholders' funds showed a fall from £2.85m to £2.67m, but bank overdrafts increased to £2.25m, compared with £1.5m.

Champness, Cowper and Co., the group's auditors, point out

that the accounts have been drawn up on a going concern basis which assumes that the group's bankers will continue to operate within these limits.

DESPITE THE setback last year, Evans & Owen (Holdings) is certain that conditions will soon return in which the group's special strengths can be used to maximum advantage and in which progress can be resumed.

The chairman adds that when confidence returns Norton will be able to give immediate delivery from stock of many types of machines, whereas manufacturers will require considerable lead time to build up production and effect deliveries.

Norton is streamlining its

workforce and costs, wherever

possible, can be achieved without

damaging the ability to capitalise on future opportunities.

"Our group has many strengths," Mr. Norton says, "and we are geared to move fast as soon as the market begins to move."

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EVANS & OWEN £4,500 PROFIT

For the year ended March 31, 1980, Evans & Owen has turned a profit of £4,500, against a loss of £95,734 in 1979-80.

The company, which runs fashion boutiques, pushed up its turnover from £1.3m to £1.5m.

Trade receivable credits rose from £21,420, compared with £21,913, plus extraordinary credit £23,821. Earnings are shown at 7.5p (loss 18p) per share!

W. E. Norton confident

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The chairman

North Broken Hill has another good year

BY KENNETH MARSTON, MINING EDITOR

NOT INDICATED at the half-way stage, a further strong mining performance for the year to June 30 has been turned in by North Broken Hill, the Melbourne mining and investment house in which a 10 per cent stake is held by the Consolidated Gold Fields group.

Net profits before extraordinary items have advanced to \$A34.8m (£23.5m) from \$A25.5m. The extraordinary items are mainly a surplus on disposal of investments which brought in \$A54.4m.

North Broken Hill is paying a final dividend of 10 cents to give a year's total of 18 cents which compares with 12 cents for 1978-79.

The gross profit from lead-zinc-silver mining operations rose to \$A51.85m from \$A39.75m. But after New South Wales royalty and income tax have taken their bite, the net figure comes out at \$A15.87m against \$A10.85m; a crushing answer to those in Australia who seek higher mining taxation, claiming that the companies are making too much money out of irreplacable natural resources.

Net investment income, and equity in net profits of associated companies, rose by 73 per cent mainly as a result of higher dividends from Alcoa of Australia and increased profits of Associated Paper and Paper Mills, Broken Hill Associated Smelters and EZ Industries.

North Broken Hill takes a confident view of the current year. It is pointed out that although the prices of lead and

silver are below their recent record levels, the historically high price of silver "should ensure another good result from the North mine." At the same time the major investment companies are doing well. Shares of North Broken Hill eased 6p to 190p yesterday.

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BIDS AND DEALS

Mining Supplies' offer values Scott at £6.2m

BY REG VAUGHAN

MINING SUPPLIES, the Doncaster based mining machinery manufacturer, has launched a full bid for Laurence Scott, the loss making electrical machinery and control gear maker. This move comes 3½ months after Mining Supplies took its shareholding in Scott up from 4 per cent to 27.15 per cent in a buying operation known as a dawn raid.

Mining Supplies is offering 8 of its shares for every 17 Scott shares. At yesterday's close of 140p (down 3p) for Mining Supplies, the bid value each Scott share at 65.88p and compares with Scott's closing price of 66p, up 6p. On this basis the shares not already owned by Mining Supplies are valued at £4.5m and the entire Scott equity at £6.2m.

To comply with the takeover code, there is a cash alternative of 60p per Scott share—the highest price paid by Mining Supplies for Scott shares in the past 12 months.

Mr. Paul Tapscott, chairman of Scott, said yesterday he was "not surprised" by the bid announcement, but "the price is under valuation." The latest Scott accounts show a net asset value of 18p per share after allowing for a property revaluation.

In a holding statement, Scott is advising shareholders to take no action until they hear from the board. The directors, who are being advised by Samuel Monks and Co., expect to reply in the bid by the end of the week. There has been no contact between the two companies since the raid on Scott's shares by Rowe and Pilman in May.

Both Adwest Group, with 7.84 per cent of Scott's shares, and Prudential Assurance with 5.47 per cent, were reserving their positions on the bid yesterday.

Mining Supplies and Scott have substantial areas of common interest. Scott provides Mining Supplies with electric motors and other related items

and also does a lot of work for the coal mining industry, an area where Mining Supplies is heavily involved.

Mr. Arthur Sape, chairman of Mining Supplies, said yesterday the acquisition would help build up the group's work market. Mining Supplies already had important development contracts with Scott and he wanted to develop these.

Mr. Sape felt that the deal would be to the advantage of Scott shareholders. "The group is been going downhill more each year and may have further to go. The record is not good," he said. Mr. Sape was critical of the recent revaluation carried out by Scott, describing it as "window dressing."

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The tender offer, of 82p per Alton share, will be made for at least 373,333 shares which would result in Smurfit owning 67½ per cent of the outstanding shares. If additional shares are tendered, Smurfit intends to purchase up to 662,866 shares, which would increase its ownership of Alton to 80 per cent.

The directors of St. George's Landry, together with the Armstrong family which successfully fought off a takeover last year by Provincial Laundries, have placed much of their holding in

Gold and Base Metal Mines. Mr. Edward Nassar and his associates are beneficially interested in 30,500 shares (5.008 per cent).

RACAL PLANS SECURITY EXPANSION

COWAN, de GROOT LIMITED

Extracts from the Chairman's Statement for the year ended 30th April 1980

	1979/80	1978/79
Turnover	£44m	£39m
Record Pretax Profits	£2.6m	£2.2m
Assets per share	73.3p	63.1p

"The excellent results reflect the efforts that each company in the Group has made to combat increased overheads and at least maintain its margins. It is particularly gratifying bearing in mind the difficult times through which the industries in which we are engaged have been – and still are – passing."

The total dividend of 3.5p per share represents a 28% increase on last year's.

We shall best meet the challenges of today's trading conditions by remaining steadfast to our philosophy of providing products of quality and value, by maintaining and fostering the good relationships we have with our suppliers, and by giving our customers the best service we can.

We look forward to the future with confidence and hope that we will continue to maintain the unbroken record of progress which we have been fortunate enough to produce for shareholders over such a very long period."

Demick Cowan, Chairman



4 DIVISIONS: TOYS AND GIFTWARE PRODUCERS — ELECTRICAL AND HARDWARE WHOLESALEERS — MACHINERY IMPORTERS — RUSSIAN SHOP. COWAN, de GROOT LIMITED, 11 JOHN STREET, LONDON WC1N 2EE.

Companies and Markets

UK COMPANY NEWS

Metal Closures' profits slip to £2.56m midway

TURNOVER OF Metal Closures Group, metal and plastic products maker, principally for packaging, rose from £29.5m to £33.74m but pre-tax profits for the first half of 1980 slipped to £2.56m, compared with £2.78m.

Mr. John Boden, chairman, says there is no way in which the packaging industry can expect to be sheltered from the general recession; a rapid decline in customer requirements has reached a significant level in all areas of the group's UK business.

"Stringent remedial action has been taken as there are no signs in the foreseeable future that the present trend is diminishing." The chairman adds that these conditions must result in lower UK profitability, to some extent offset by buoyant overseas earnings.

Half-yearly earnings per 25p share are shown as 7.19p (10.02p) but the interim dividend is unchanged at 2.2p net—last year's final payment was 3.2p paid from pre-tax profits of 25.81m.

Tax, at £864,000 (£674,000) is at a higher rate since it is anticipated that no benefit will arise from stock appreciation relief in the current year.

After minorities of £142,000 (£93,000) and preference dividends of £7,000, the attributable balance was down from £2m to

£1.45m, of which the interim will absorb £443,000 (same).

● comment

Although Metal Closures is one step away from the consumer trade it has been hit by the retail squeeze as its customers reduce orders. The group's food and drink packaging products, particularly for whisky makers, have suffered while plastic packaging for the textile industry has also been hit. In the first six months of 1980 it was the South African operation which saved the day: a contribution of around £800,000 from SA represented a 56 per cent increase and held the group's profit decline to only 8 per cent.

UK packaging profits were down at least 25 per cent meanwhile and this trend could continue in the second half. In addition, the group has made 400 of its 3,000 workforce redundant in the first half of this year, the cost which will show up at year end. The poor summer weather will also reduce earnings and the full year pre-tax profit could be down to 55m less against last year's 25.8m, suggesting a fully taxed p/e of 3.7—unexciting with a prospective yield of 8.5 per cent at 93p. But the company does have reasonable balance sheet strength and no borrowings, a good position to be in during the current recession.

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official circulars are available as to whether dividends are interim or final and the subdivisions shown below are based mainly on last year's timetable.

TODAY

Interims: SICC, Barton and Sons, Bassett, Bowler, Osmond, Bacon, S. W. P. and P. P. Ltd., C. J. C. Ltd., C. Smith and Tidman, Standard Chartered Bank, Wilson (Connally).

Fines: F. and C. Eustace, Land Investors, Sopwith, Staffordshire Poteries, Zetars.

FUTURE DATES

Interims: Structured Engineering Sept. 15 Booker McConnell Sept. 12 Dresden and Cloud Hill Limbs Works Sept. 19 Canning (W.I.) Oct. 10 Eagle Star Sept. 17 Executive Clothes Sept. 15 Federated Land Sept. 15 Liverpool Daily Post & Echo Sept. 14 North Staffordshire Miners' Welfare Oct. 3 Rio Tinto Zinc Sept. 11 Schrodars, Solicitors' Law Stationery Society Oct. 2 White & White Sept. 12 Finlays: Graske Mines Sept. 12 Chambers and Fergus Sept. 12 Kinross Gold Mines Sept. 12 St. Helena Gold Mine Sept. 12 Unisul Gold Mines Sept. 12 Vinkhushk Mines Sept. 12

Illingworth Morris still cutting inventory levels

TO COMBAT the high level of inventories and to reduce bank indebtedness at Illingworth Morris and Co., the policy of cutting inventory levels which started last October will be continued ruthlessly, Mr. Donald Hanson, chairman, says in his annual report.

Stocks last year were reduced by 55m and targets have been set which could lead to a similar reduction for the current year.

The group's balance sheet as at March 31, 1980 shows stocks at £341.4m (£39.6m) with overdrafts at £22.34m (£21.34m). Shareholders' funds amounted to £25.92m (£29.6m).

A loss before tax of £2.46m was incurred in 1979-80 compared with £3.38m profits previously. External sales amounted to £109.72m against £120.8m.

Despite the absorption of funds by the leases, the group has not increased the level of borrowing, the chairman says. Trading conditions have been far from ideal but the chairman believes the policies which have been adopted to strengthen the group will begin to bear fruit in the current year.

Wool merchandising traded very profitably in 1979-80 but spinning and combing were seriously affected by the decline

in progress well and contrary to the overall trend in this sector maintained profitability. Cloth merchandising domestic sales were well maintained. To enhance future profits, the total merchandising function has now been concentrated in the West of England.

In May this year, Leon Black Company was formed to act as a vehicle for the sale of luxury cloths produced by members of the group. Leon Black is well established already in the top quality ladies' clothing market selling to major department stores.

Directors anticipate the Leon Black company to expand and to increase the use of IM products and the promotion of the IM name throughout the U.S.

Future capital expenditure authorised for the group but not contracted amounts to £1,120,000 (£883,000) and £868,000 (£844,000) contracted but not provided.

The accounts also show a £35,000 payment of compensation for loss of office.

Large shareholders in the group are held by Mrs. Pauline Maen, Mr. N. Ostrer, G. A. Lightman, Woolcoopers (Holdings) and London Investment.

Meeting, Skipton, West Yorkshire, September 30 at noon.

Haynes Publishing Group Ltd

PRELIMINARY ANNOUNCEMENT

The Directors announce the results for the year ended 31st May, 1980.

	1980	31.5.79
	The Group £'000	The Company £'000
Turnover	.....	.....
United Kingdom and exports	3,249	3,183
North America	1,273	916
	4,522	3,514
Trading surplus before interest	.....	.....
United Kingdom and exports	456	658
North America	161	143
	617	688
Exceptional item	36	—
Interest	17	(4)
Profit before tax	670	554
Taxation	132	359
Profit after tax before extraordinary items	538	395
Extraordinary items	107	—
Profit available for distribution	431	395
Dividends	.....	.....
Interim of 2.0p paid	32	—
Final of 5.0p recommended	80,112	1
Addition to unappropriated profits	319	294
Earnings per 20p share	11.10p	7.83p
Exceptional item	.....	.....
Relates to a formal waiver of a debt due to John H. Haynes (Investments) Inc. a United States corporation owned by the Chairman.	.....	.....
Extraordinary items comprise	.....	.....
Expenses of flotation	(132)	—
Pre-acquisition profit of Haynes Publications Inc. (after tax of £21,000)	(20)	—
Shipping costs relating to stock held in the United States at 31st May, 1979	45	—
	(107)	—
Earnings per share:	.....	.....
Earnings per share are calculated on the Group profit of £538,000 (1979 £295,000) and on the weighted average of 4,850,000 Ordinary shares subscribed for in cash (1979 4,700,000 shares).	.....	.....
The Group pro-forma accounts:	.....	.....
The pro-forma accounts include, for comparison purposes, the combined twelve month's figures to 31st May, 1979, of the operating companies which together now form the Group.	.....	.....

SALIENT POINTS FROM CHAIRMAN'S STATEMENT:

Seasonal trend of sales was not similar to previous year. Massive product de-stocking by wholesalers and retailers in last quarter resulted in turnover shortfall of £550,000 and this has led to a decrease of more than £300,000 on the minimum profit anticipated. This invalidated all assumptions made in the Offer for Sale.

Group suffered several weeks of industrial action by the NGA which cost the company 150,000 weeks.

United Kingdom inflation exceeded 20% and the sterling/dollar exchange rate moved upwards by more than 10%.

Excellent results in North America where sales were 33% higher.

A total of £493,000 (1979 £311,000) spent on optimisation and new titles, all of which has been written off in the consolidated profit and loss account.

For the first quarter of the new year home sales are more than 25% higher than for the same period last year.

Dividend is being increased by 16% to give a final dividend of 5p.

NOTICE OF REDEMPTION

To the Holders of

Nabisco International Finance Company

6 1/2% GUARANTEED DEBENTURES DUE 1982

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Indenture dated as of October 1, 1967 providing for the above Debentures, \$441,000 principal amount of said Debentures have been selected for redemption on October 1, 1980 through operation of the Sinking Fund; at the redemption price of 100% of the principal amount thereof, together with accrued interest thereon to said date, as follows:

Outstanding Debentures of U.S. \$1,000 Each of Prefix "M" Bearing Serial Numbers Ending in the Following Two Digits:

33 57 58 59 64 81 82 87 91 92 93

Also Debenture of \$1,000 of Prefix "M" Bearing the Following Serial Number:

16322

On October 1, 1980, the Debentures designated above will become due and payable at the redemption price aforesaid in such sum or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts and will be paid, upon presentation and surrender thereof with all coupons appertaining thereto maturing after the redemption date, at the option of the holder either (1) at the Corporate Trust Department of Morgan Guaranty Trust Company of New York, 30 West Broadway, New York, N.Y. 10015, or (2) subject to any laws or regulations applicable thereto, at the main offices of Morgan Guaranty Trust Company of New York in Brussels, Frankfurt/Main, London or Paris or the offices of Banque Internationale à Luxembourg S.A. in Luxembourg, Algemene Bank Nederland N.V. in Amsterdam or Banca Commerciale Italiana in Milan. Payments at the offices referred to in (1) above will be made by a check drawn on a bank in the City of New York or by a transfer to a dollar account maintained by the payee with a bank in each City.

Coupons due October 1, 1980 should be detached and presented for payment in the usual manner.

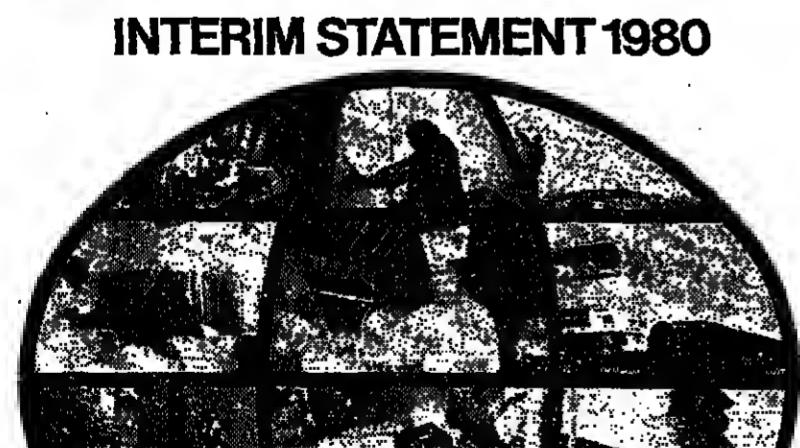
On and after October 1, 1980 interest shall cease to accrue on the Debenture, from and designated for redemption.

NABISCO INTERNATIONAL FINANCE COMPANY

Dated: August 28, 1980

PRITCHARD SERVICES

INTERIM STATEMENT 1980



For the 26 weeks to 29th June, 1980

Chairman Peter Pritchard reports

* Profit before Tax up 34% to £1.4m

* Dividend up 25% to 1p per share

* Earnings per share up 43% to 3.83p

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RESULTS FOR 1980 SHOULD NOT BE TOO DISSIMILAR FROM LAST YEAR

"New Ford Escort will give Group's sales departments a boost, subject to reasonable supplies being received".

"Recent acquisition of Cranford Motors will soon be making good contributions to Group profits".

"While difficult to forecast any significant improvement in trading performance for rest of current year, areas of brightness bring hope for outcome not too dissimilar from results for last year".

Tony Bramall, Chairman

Interim results (unaudited) 6 months ended Year ended

30.6.80 30.12.78 £'

UK COMPANY NEWS**London United falls at midway**

TURNOVER OF London United Investments for the half year to June 30, 1980, was down from £7.37m to £6.03m. Pre-tax profits fell from £1.45m to £1.34m, after group overheads, totalling £253,000, compared with £235,000 last year, and including associated profits amounting to £67,000 against £15,000.

After tax, £33,000 (£69,000), the attributable balance was £710,000 (£74,000). The interim dividend is held at 4p 1/2 per 50p share—last year's final was 5p paid from pre-tax profits of £3.8m.

The directors say the recovery of the U.S. insurance market has been much slower than anticipated. However, with cautious optimism, they anticipate an improvement of profitability in the second half, both at home and abroad, and look forward to the future with confidence.

• comment

With 90 per cent of its premium income generated in the U.S., Ariel Int'l. confident of further European growth

WITH THE ultimate value of all planned investment properties and developments expected to total £11.7m on completion, the directors of Ariel International, office and shopping developer in Western Europe, say in their annual report that they are confident of continually improving results.

At the 1979 year-end the Rotterdam-based group, owned 50 per cent by Wimpey Property Holdings, held investment properties with a book cost of £33.9m in the Netherlands, West Germany, France and Belgium and the directors put the current value of these properties, based upon professional advice, at £50m.

Cost of development in progress was £20.4m at December 31 last with a projected final cost of £27.4m. The expected cost of all investment properties and development when completed is £91.3m.

The directors of Ariel, formed four years ago, disclose in their first annual accounts circulated beyond the shareholders, that turnover in 1979 was £2.6m, including rental income of £1.1m. Profit for the year was £1.19m—there is no tax charge.

The group's policy has been to acquire land in prime positions in major cities for the construction of high-quality office buildings and shopping complexes. The group does not carry out its own construction work, placing the directors state.

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MASSEY-FERGUSON

Still fighting the debts

BY ROBERT GIBBONS IN MONTREAL

MASSEY-FERGUSON, of Toronto, the world's third largest farm machinery producer, and owner of the Perkins diesel engine firm of Peterborough, UK, will now have to wait until the end of September before it knows whether it can pull together its US\$600m refinancing package.

Though the North American farm machinery market is starting to pick up from its short but deep recession, interest rates are rising again adding to the cost of servicing Massey's approximately \$1bn of short-term debt.

Industry analysts now agree that Massey is in better operating shape after selling off several loss-making subsidiaries, including the Hanomag construction equipment firm in West Germany.

The company has reduced inventory worldwide by about

\$250m, shut down plants for several months this summer in North America and Europe, and has cut overall manning by about 20,000 to just below 50,000.

However, the company is still saddled with a swollen debt-equity ratio, twice the normal short-term lending already.

During the past two years the banks have been obliged to put up more short-term funds rather than call their loans and create an immediate crisis.

Because of the continuing delay, Massey must now ask all its lenders to ease safety margins on their loans. This in turn is because the Government in Ottawa and the Ontario Government have not yet decided if they will support the refinancing or bow.

However, from Massey's statement it is clear that talks with the Governments and negotiations for refinancing will

continue and that the banks will accept the delay.

Both the Federal and Ontario Governments are anxious to avoid giving the impression they are willing to bail out any major Canadian company or employer in financial difficulties. They regard a \$210m package of support for Chrysler Canada as a special case and still want help for Massey to come mainly from the private sector.

The trading environment for Massey may now be the worst, and with a recovery in North America, the company foresees a break-even in operating results for the final quarter ending October 31.

In the first nine months Massey showed a net loss of \$62.9m against a profit of \$104m, including \$95m of special gain year earlier. Sales were

\$2.28bn against \$2.05bn.

Details of the agreement, which has not yet been made public, were telegraphed to about 100 banks around the world over the weekend. The agreement follows many months of delicate negotiations.

All the banks involved in lending the \$580m now have to consider and formally agree to the proposals, according to bankers in New York.

The steering committee includes a number of major U.S. banks, such as Bank of America, Bankers Trust, Citibank, First Chicago and Manufacturers Hanover, as well as banks in Europe.

There is scant sympathy in Whitehall for the official Brazilian view that the country's economy has to continue to grow fast in order to create jobs for the unemployed and consequently keep social discontent to a minimum.

Officials in London are privately scathing about the political and economic effect of Pope John Paul II's visit to Brazil this year. They contend that he raised hopes among the mass of Brazilians of a redistribution of income and a general bettering of their lot when, they argue, the economy is in no shape to fulfil such expectations.

Soft market trims gain at Data General

By Our Financial Staff

DATA GENERAL the computer group, disclosed that because of a soft minicomputer market in the U.S., earnings for the fiscal year ending September 27 "may fall short" of projections of \$5.50 a share by Wall Street analysts, but will be ahead of the previous fiscal year's \$4.82.

Based on 10.5m shares outstanding, \$5.50 a share would equal net income of about \$57.8m. The previous year's per share net equalled \$49.8m on sales of \$507.5m.

The company expects the weak market to persist throughout at least the fiscal first quarter of next year. In the previous first quarter, Data General had net of \$11.9m or \$1.15 a share on sales of \$137.1m.

Under Data General's fiscal arrangement, its first three quarters are 12 weeks each and the final quarter 16 weeks.

The company said the recession has reduced new orders for minicomputers and increased the number of deferrals and cancellations of some orders placed previously.

Consolidated Foods optimistic

LOS ANGELES — Consolidated Foods Corporation, the processed foods and consumer products group, expects net earnings in its first quarter ending September 29 to increase by about 10 per cent from the \$31.5m or \$1.02 a share, earned in the same quarter last year.

Mr. John J. Cardwell, the president, said that turnover

should rise by about 10 per cent

from last year's first quarter figure of \$1.3bn. He added that full-year net earnings and sales were also expected to increase by about the 10 per cent.

Mr. Cardwell said that

the improvement would be reflected in the first quarter results.

The recession had, however, affected some operations, Mr. Eggers said.

The frozen foods market, for example, was badly hit by the recession and Consolidated's frozen food business would be off in the first quarter compared with last year. Mr. Cardwell added that "softness in sweet goods" had been the most noticeable effect of the recession recently.

AP-DJ

Reynolds Metals sees downturn

NEW YORK—Mr. David P. Reynolds, the chairman of Reynolds Metals Company has said that second-half results would reflect the downturn in the general economy but, with a record performance for the first six months, "We expect this to be our second best year in terms of earnings."

The company earned \$110.2m

in the first half, up from \$97.7m in 1979. For all 1979

Reynolds had record net income

of \$177.1m or \$9.25 a share on sales of \$3.3bn.

Although industry aluminum shipments could be about 7 per cent lower for 1980 compared with 1979 some increase is expected in 1981 followed by a very strong year in 1982. In 1979 the industry shipped 14.4bn pounds of aluminum.

Reynolds and two other companies are considering the construction of a large scale aluminum smelter in Western Australia. A feasibility study, being made at the request of the

Australian Government, will be finished by the year-end.

The smelter would rely for its alumina supply on the Worsley project, a \$160m joint venture in Western Australia.

Reynolds has a 40 per cent interest in the project, which is scheduled to start up in late 1983 and reach full output in 1984.

The company is completing arrangements for a \$550m credit from a consortium of banks to finance the project. Reuter

All those securities having been sold, this announcement appears as a matter of record only.

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INTERNATIONAL CAPITAL MARKETS

Accord on Nicaragua debt restructuring

By Peter Montagna

THE GOVERNMENT of Nicaragua and a steering committee of 13 international banks have reached agreement in principle on a restructuring of about \$580m of Nicaragua's external debt.

The agreement covers only public sector debt outstanding at the time of the downfall of the Somozas Government in July 1979. It does not extend to debt held by individuals or foreign entities which have since been nationalised.

Details of the agreement, which has not yet been made public, were telegraphed to about 100 banks around the world over the weekend. The agreement follows many months of delicate negotiations.

All the banks involved in lending the \$580m now have to consider and formally agree to the proposals, according to bankers in New York.

The steering committee includes a number of major U.S. banks, such as Bank of America, Bankers Trust, Citibank, First Chicago and Manufacturers Hanover, as well as banks in Europe.

Whitehall apprehensive of Brazil's borrowing policy

BY HUGH O'SHAUGHNESSY, LATIN AMERICA CORRESPONDENT

IF BRAZIL were to ask for large-scale international aid for the management of its foreign debt, now estimated to total some \$55bn, Britain would press the Figueiredo Government to adopt strict orthodox policies of austerity, and cutbacks in public sector spending. According to senior Whitehall figures, Britain would expect to see the Brazilian authorities go to the International Monetary Fund and accept the policy recommendations given to them there. So far the Brazilian Government has argued that there is no need for recourse to the IMF.

Officials draw parallels between what they see as Britain's economic success since its acceptance of IMF formulas during the sterling crisis of the 1970s and the process that Brazil may well eventually have to go through.

There is no hiding official impatience in London with what

is seen as irresponsible borrowing strategy by Brazil, and any apprehension about the effects on world financial markets of any move by Brazil unilaterally to ease its debt burden.

Officials in London are privately scathing about the political and economic effect of Pope John Paul II's visit to Brazil this year. They contend that he raised hopes among the mass of Brazilians of a redistribution of income and a general bettering of their lot when, they argue, the economy is in no shape to fulfil such expectations.

INTERNATIONAL BONDS

Two Eurofranc FRN debuts

BY FRANCIS GHILES

TWO BORROWERS who have not borrowed in the Swiss Eurofranc market so far are completing floating rate notes in this sector.

Udrzena Beogradsko Banka has completed a SwFr 20m ten-year issue through Soditic. The borrower is paying an interest rate of 4 per cent over the interbank rate. The minimum coupon has been set at 6 1/4 per cent and the bonds priced at 99.

Banco Central de Costa Rica, meanwhile, is completing a SwFr 20m FRN which matures in 1990. The borrower is paying 4 per cent over the six-month interbank rate with a minimum of 7 per cent. Both the borrower and note holders can redeem the bonds annually at par from 1986. The issue has been priced at par by the lead manager, Banque Ganzwiller, Kurz Bungener.

The Austrian company, Voest Alpine, has arranged a SwFr 80m 10-year public issue

through Credit Suisse. This bond, which has been priced at 99, carries a coupon of 5 1/2 per cent. It was reduced from an indicated figure of SwFr 100m. This reduction underlines the difficulty Swiss bankers are facing when arranging issues for borrowers who are frequently in the market.

Secondary market prices were a little weaker today, by about 1/2 of a point. In the other hard currency sector, Deutsche Mark foreign bond prices were slightly weaker on the day.

The Republic of Panama is arranging a \$25m seven-year FRN in the Asian dollar market through a group of banks led by Yamaichi Securities, First Chicago Asia and Singapore Japan Merchant Bank.

The borrower is paying a coupon of 4 1/2 per cent with a minimum interest rate of 6 1/2 per cent. The maturity of the bond is extendable at the note holders option to 1990, when it can be redeemed at 100, or 1992 when

it can be redeemed at 101. The coupon on Minerva Camera Company's \$30m 15-year convertible Eurobond has been raised to 7.25 per cent from the originally indicated 7 per cent with pricing fixed at 98. Lead manager is Daiwa Europe. The conversion premium is 9.83 per cent.

The issue has also been sweetened for investors by a fixed yen-dollar exchange-rate of Y224.45 to the dollar, compared with yesterday's rate on foreign exchanges of around Y217.00.

Trading in the dollar sector, particularly where straight dollar bonds were concerned, was described by a number of dealers as "completely dead" yesterday. Longer dated bonds weakened more than shorter dated ones but all finished the day about 1/2 of a point down.

In the sterlin sector, most issues gained between 1/2 and 1/4 of a point with dealers reporting good demand from abroad.

FT INTERNATIONAL BOND SERVICE

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published Closing prices on September 8

U.S. DOLLAR STRAIGHTS Issued Bid Offer day week Yield Change on

BRIT. Oxygen F. 10% 90 50 85 1/2 88 -

HOLLYWOOD EXPORTS

Riding high in Germany

BY PAUL HANNON IN FRANKFURT

MOVIE-MAKERS and distributors in the U.S. are riding an export boom, thanks largely to a growing European appetite for American feature films. Non-U.S. rentals by the American film industry rose by 10 per cent to \$305m last year, with Europe providing the driving force. Rental growth in the 10 major distributing countries amounted to 9 per cent and Europe, through Germany, France, Italy, Spain and the UK, expanded by more than 20 per cent.

West Germany performed especially energetically, moving from fifth to first place in the league table of the 10 most important markets, with a rise in rentals of almost 40 per cent — to \$87m from \$60m.

Germany has always been a major market, but last year young Germans became the single most important overseas audience in the eyes of Hollywood accountants. Currently every second cinema ticket sold in West Germany is for a U.S.-made film.

The domestic German motion picture industry, resolute as it is, has been unable to match this performance and in fact only manages to take in about one-fifth of total box office receipts.

"After the war, the U.S. film major re-established a presence in Germany through the Motion Picture Export Association of America (MPEAA) and presently forms four separate entities: Cinema International Corporation (which includes Universal, Paramount and MGM); Twentieth-Century Fox (with Disney); United Artists; and Warner-Columbia. Three have head offices in Frankfurt (Warner-Columbia in Munich) but all have branch offices in the key major cities.

Post-war Germany saw a major revival in cinema attendance. U.S. distributors expanded their foothold to claim a 40 per cent share of the market at its peak in the mid-1950s when over 815m tickets

were sold annually throughout 6,000 cinemas. By the late 1950s, however, Germany's economic recovery was under way and cinema became less important. Almost as a reminder of the difficult reconstruction the cinema (like the bicycle) was put to one side.

Business slumped to only 110m ticket sales by 1975, but although Hollywood held on to

LEADING OVERSEAS MARKETS

Country	1979	1978
W. Germany	97.1m	70m
France	86.3m	74m
Japan	80.8m	95.4m
UK	79.4m	72.2m
Canada	75m	77.4m
Spain	59.7m	42.8m
Italy	58.9m	55.3m
Australia	40.1m	40.2m
Mexico	27.9m	28.1m
Brazil	26.5m	23.2m
	632.3m	579.3m

its market share better than its competitors, the state of the art in Germany was just short of disaster. Hollywood rescued German cinema by providing a long string of popular successes, enabling promoters and exhibitors to inject considerable capital into smaller, more comfortable cinemas both in central and suburban districts. German cinema audiences have since repaid Hollywood's debt with hefty rental revenues, enabling the cycle to continue.

The German cinema market in 1980 has changed radically from that of 20 years ago. It now consists of 3,100 cinemas selling approximately 155m tickets annually at DM 8 each (on average) to a young audience, 80 per cent of whom are between 12-18 years.

"Everything depends on the film," says Werner Rochau, director of promotions at United Artists in Frankfurt. "We can get an older crowd to come to something like *Cuckoo's Nest* or the Bond films."

United Artists distributes about two dozen feature films

each year in Germany and also to the German speaking parts of Switzerland and Austria. Gross rentals for the company were approximately DM 30m last year.

"The key to American success, not only in Germany but throughout the world, is organisation," says Rochau. "A good network of distributors and promoters for all the companies means success. Otherwise you wouldn't be able to see the latest James Bond movie in Hong Kong or South America."

Every new United Artists production is screened in Frankfurt and judged on suitability for the German market. Between DM 120,000-DM 150,000 is spent on tailoring a Hollywood feature to local tastes. Dubbing alone can cost DM 80,000.

"After the war," says Rochau, "no one was interested in hearing American voices in the cinema, but we loved the films. Historically, dubbing was the key to the breakthrough in the revival of cinema-going in post-war Germany." Perhaps only 1 per cent of U.S. films are screened in their original language form today.

"We are generally pleased with our turnover, but as a rule we need DM 1m in rentals per film to meet our targets."

The greatest threat to the recovery of cinema attendance lies in the growing use of video-cassettes. Whereas some film companies are actually profiting from cassettes of old films, UA's experience is different.

"Within a week of one of our films opening in Germany we hear that it is available on the black market in cassette form. It might be a projectionist or people in dubbing studios selling it on the black market—we just don't know, and there's nothing we can do about it. It's something for head office to sort out. Meanwhile, at the mercy of these people."

Although West Germany is the main overseas market for

U.S. productions, France, Japan and the UK together accounted for over \$250m in revenues last year. The top ten overseas markets (see table) are valued at \$632m or 70 per cent of total foreign rentals.

Of the total worldwide billings of nearly \$1bn in 1979, approximately \$450m-\$500m found its way back to the U.S. The remainder went to finance offices, staff, credit lines, and investments in local infrastructure.

In the case of West Germany, finance for the Film Subsidy Plan emanates from a 15 pfennig levy on each ticket sale. Last year this subsidy, used to support the German film industry, amounted to DM25m—half of which came from U.S. films.

Total rentals in Germany for 1979 were up 39 per cent in U.S. dollar terms, but local business (in Deutsche Marks) was ahead by 27 per cent, thus giving a 12 per cent currency conversion advantage to the U.S. distributors.

Similar exchange rate advantages were reported for Spain (with a 25 per cent improvement in local business plus a currency gain of 15 per cent) and for France (11 per cent gain in local turnover plus 6 per cent exchange rate advantage).

Hollywood's recovery may not be as long lived as some hope. Complacency has been the cause of earlier disasters for the industry, and many realise that the shift in technology (to cassettes, pay-TV) could prove its undoing yet again. Product quality is still the most important element in the formulae for healthy balance sheets.

The U.S. film industry is not under any out-dated illusions about guaranteed audiences and market shares. For many distributors and production companies, decisions are calculated and made on the basis that there is no guarantees that someone in the future will be standing on the shore to throw them a line.

East Asiatic Malaysian offshoot ahead

EAST ASIATIC company Berhad, the Malaysian offshoot of the Danish trading, industrial and shipping group, reported a moderate improvement in interim earnings but warned that the full year's results could be lower than those of 1979, writes Wong Sui On in Kuala Lumpur.

For the six months ended June, the company made a 16 per cent increase in pre-tax profit to 18.4m ringgit (\$605m) on a 23 per cent rise in turnover to 139m ringgit (\$65.35m). After-tax profit was only 8 per cent higher at 11m ringgit.

The erosion of margins came largely from the Dunex division, which manufactures baby food lines. A substantial increase in prices for imported raw materials as well as for local basic materials, coupled

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June 1980

This announcement appears as a matter of record only

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INT'L COMPANIES

Clyde pursues bid for PEL despite support for Peko

BY JAMES FORTH IN SYDNEY

CLYDE INDUSTRIES, the engineering group, has pressed on with its share offer for Production Equipment Limited (PEL), the material handling company, despite indications that the rival bidder, Peko-WallSEND, the mining and industrial concern, has already won the day.

Clyde is offering four of its shares for every three Production shares worth A\$3.44 a share. Both bidders have also announced straight cash offers — Clyde of A\$4.15 a share and Peko of A\$3.75. Clyde has also indicated that

Production shareholders can take either all shares, all cash, or a mix of shares and cash.

But the family of the founder, the late Mr. Walter Krauss has indicated that they intend to accept the Peko offer for their 57 per cent shareholding.

It is the second time the

Krauss interest has stated it will accept a Peko bid. On the first occasion, Clyde had already announced an offer when Peko disclosed a lower counter bid and claimed to hold irrevocable agreements with the Krauss family.

Clyde took legal action, and Peko agreed voluntarily to release the family from any commitment. Clyde immediately pressed on with its cash terms, and announced a scrip issue in which Production holders could participate and said that its share offer alternative would be increased.

The conference is intended for a sophisticated senior audience of professionals. It is not intended as an introductory overview. It is suggested that participants have a compelling interest and some experience in the area.

The principal speakers will be the chief executive officers of the major Arab international financial institutions, public and private, operating on the Peninsula as well as the international partners of the major international accounting and law firms. As the United Arab Emirates is one of the principal financial centres of the Arab world, Dubai is a particularly appropriate venue for this important meeting.

The conference has been scheduled to immediately precede the Far

Eid holiday so that those participants wishing to bring their families may do so and stay over for the holidays. For those spending the holidays in the Far East Dubai is an excellent departure place.

Financial Times Tuesday September 9 1980

THE DUBAI CONFERENCE—1980

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FOR

BANKERS, LAWYERS AND PUBLIC ACCOUNTANTS
OCTOBER 17 AND 18, 1980

His Excellency Sheikh Hamdan bin Rashid Al Maktoum, Minister of Finance and Industry of the United Arab Emirates, is sponsoring and acting as Honorary Chairman of the first of a series of conferences to be held annually in Dubai, U.A.E., on October 17 and 18, 1980.

The purpose of the first annual conference will be to bring together a distinguished group of Arab World bankers, lawyers and public accountants to discuss and develop the changing roles of their respective institutions. A principal topic will be the development of the various Arab financial institutions and their present and future roles in recycling the petroleum generated monies surpluses through the 1980s. The speakers in this context will also discuss how they see themselves relating to each other in the rapidly developing financial and business community on the Arabian Peninsula.

The conference is intended for a sophisticated senior audience of professionals. It is not intended as an introductory overview. It is suggested that participants have a compelling interest and some experience in the area.

The principal speakers will be the chief executive officers of the major Arab international financial institutions, public and private, operating on the Peninsula as well as the international partners of the major international accounting and law firms. As the United Arab Emirates is one of the principal financial centres of the Arab world, Dubai is a particularly appropriate venue for this important meeting.

The conference has been scheduled to immediately precede the Far Eid holiday so that those participants wishing to bring their families may do so and stay over for the holidays. For those spending the holidays in the Far East Dubai is an excellent departure place.

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Nolan, Norton & Company, management consultants in data processing, announce the opening of their European Office at 26 Dover Street, London, NW1. NNC's practice, which serves many of the largest U.S.-based companies, government, and not-for-profit organizations, has been engaged with the information management needs of multinational Clients for several years.

To maintain closer contact with Client activities in Europe and serve new Clients in the European sphere, the Firm has assigned H. Eugene Lockhart, Principal, to head its London office. He will be assisted by a consulting staff of European nationals trained in Firm methodologies at NNC's headquarters in Lexington, Massachusetts.

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AIRLINE FINANCE

BY GORDON G. KAPLAN

A new way to pay for aircraft

EUROPEAN airlines are facing a crisis in the financing of their capital equipment needs during the 1980s. They will require some \$20bn to replace their ageing fleets with quieter and more fuel-efficient aircraft and to meet the expected growth in traffic during that period. At the same time, their financial resources are being squeezed between ever rising operational costs and public pressure for lower fares.

Claims on public treasuries to meet these financing needs will be resisted since governments have other financial priorities and may simply not be willing or able to provide European airlines with funds on the scale needed.

Finance from the private sector will also be inadequate since most lenders are reluctant to extend credit beyond six to eight years, whereas the economic life of aircraft and other airline equipment lasts well beyond that period. Thus although the hardware continues to produce revenues for 10 or even 20 years, the airlines must pay off the related debt in a much shorter time; this weakens the airlines' cash flow and curtails their access to fresh capital.

Moreover, lenders for even conventional periods must find their way through a maze of legal, tax and financial complications in various countries in order to make the loans and obtain adequate security. These obstacles to efficient financing are overcome—if at all—only at much time and expense to all parties.

New solutions to these problems are thus urgently needed: what is proposed is the creation—in the framework of an international treaty—of a common European agency through which airlines could borrow long-term capital equipment finance on international markets, and lenders could obtain a secure and uniform legal and tax regime for their loans.

Shareholders

In essence, the proposal is for European governments to become shareholders in a joint finance company, European Company for the Finance of Capital Equipment for Airlines (EUROFINAIR), which would use its own equity capital and loans raised on international markets to purchase aircraft and other major items of capital equipment for European airlines.

Upon purchasing such equipment, EUROPINAIR would then supply it to airlines of member countries under hire-purchase or conditional sale contracts for periods equal to its anticipated useful life. Payments made by the airlines under these supply contracts, which would be guaranteed by member governments, would be set at the level necessary to amortise the loans raised by EUROPINAIR, and to provide the joint finance company with a return on its equity capital and to cover its operational costs and financial reserve requirements. Ownership of the equipment would pass to the airlines upon final payment under the supply contracts.

The international treaty framework would grant EUROPINAIR, its debt instruments and equipment supply contracts a special legal and tax status uniformly applicable in all member countries. This "treaty status" would provide:

- Recognition of EUROPINAIR's retention of title in the equipment as security until final payment under the supply contract;

- Tax exempt status of EUROPINAIR in its country of incorporation, and exemption from withholding taxes on dividends and interest paid to shareholders and lenders;

- Exemption from withholdings on payments from the airlines to EUROPINAIR under the equipment supply contracts.

This proposal to internationalise finance for European airlines may appear revolutionary, but it is the offspring of an existing and well-proven scheme for the co-operative financing of European railway rolling stock—EUROFIMA (European Company for the Financing of Railway Equipment).

EUROFIMA was established following an international treaty in 1956 as a joint stock company formed in Switzerland whose shares are owned by the railway authorities of 16 European countries. The international treaty arrangements for EUROPINAIR exempt it from taxation in Switzerland and exempt dividends to shareholders and the interest on bonds it issues abroad from any Swiss withholding tax.

The treaty arrangements also

recognise EUROPINAIR's ownership of the equipment it supplies to the operating railways; exempt the equipment financing operations of EUROPINAIR from any national taxes, import duties or levies which the member governments would impose on equipment purchased directly by their railway authorities; and oblige member governments to take measures under their exchange controls to ensure transfers of funds for the operations of EUROPINAIR. Under the treaty arrangements, each government is also directly liable for or guarantees payment under the contracts by which equipment is supplied to the railways.

EUROPINAIR is thus able to marshal long-term equipment finance for European railways at very fine rates, as exemplified by its recent prospectus for the sale of Japanese yen bonds. The prospectus outlined 10 public bond issues by EUROPINAIR in various currencies during 1977-1979 for terms of between seven to 15 years at interest rates of from 3.75 per cent to 8.50 per cent. Total borrowings in this manner during the two years were over \$450m in various currencies. During the past decade EUROPINAIR has borrowed more than \$1.9bn through such public bond issues.

The financing arrangements which have proven to be so successful for EUROPINAIR could be readily adapted for the finance of European airline equipment. A EUROPINAIR system could also provide other significant advantages as well:

- Common ownership of aircraft, spare parts, engines, and other capital goods would facilitate equipment exchanges and pooling arrangements among operating airlines;

- Equipment purchases through EUROPINAIR would reduce the political pressure governments can exert about the "sonne" of the purchases;

- Aircraft owned by EUROPINAIR would be protected from seizure by non-member governments for political or

other reasons. Diplomatic protection could be asserted not only by the country in which EUROPINAIR is incorporated and by the "flag" state of the aircraft, but also by all other member countries.

- EUROPINAIR could assure member airlines of their place in the "queue" in ordering aircraft from manufacturers at current prices by placing the order and taking delivery even before the member airline has a scheduled need for the aircraft.

- It could lease or charter the aircraft short-term to other operators which have an immediate need for it. Earnings from such short-term leases or charters would reduce the total financing cost to the original airline.

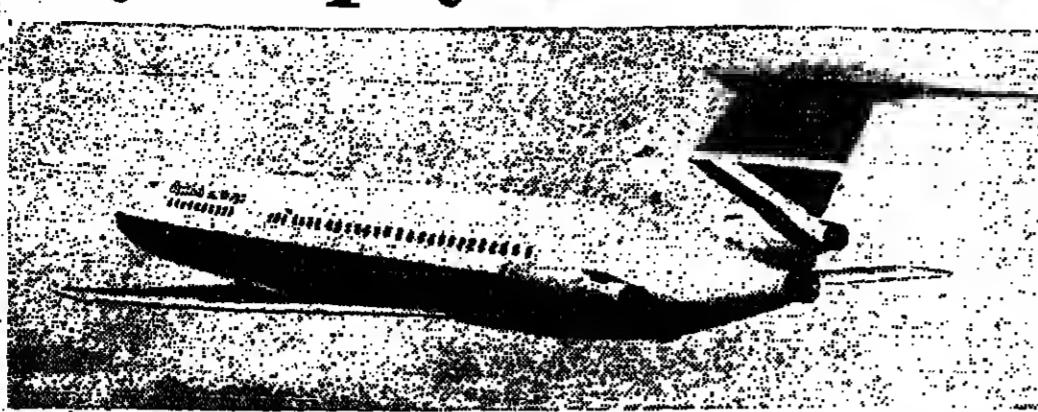
- EUROPINAIR could play a part in alleviating the international problems of re-cycling oil revenues; it could offer a long-term, tax-free and internationally guaranteed investment outlet to OPEC countries for their surplus funds. By the purchase of EUROPINAIR securities, OPEC investors would be able to participate in a politically neutral manner in the growth of the European airline industry.

As it was said of EUROPINAIR at its birth, this proposal for EUROPINAIR "represents the meeting of a compelling fact and a powerful ideal." The fact is that European airlines must spend vast sums for their equipment needs during the next decade; the ideal is European-wide co-operation to solve common problems.

The financiers of the post-war generation, whose efforts were essential in turning the idea of EUROPINAIR into reality, have shown what can be done. A consortium of European merchant banks should now demonstrate their skill and taste for innovation by acting to provide the impetus for EUROPINAIR.

* The author is an American attorney practising in London as a consultant in United States interests.

This article is based partly on the author's previous work, *Legal Aspects of Aircraft Finance in Europe*.



British Airways Trident, due to be phased out by the late 1980s.

APPOINTMENTS

Management changes at Geo. Bassett

GEO. BASSETT HOLDINGS has made the following changes: Mr. D. Clarke is appointed vice-chairman of the group in a full executive capacity. He will remain chairman of the Geo. Bassett and Co. subsidiary Board. Mr. G. R. H. Clemons, the group finance director, has assumed additional responsibility for strategic planning. Mr. H. B. Stokes, the group industrial relations and personnel director, is appointed managing director of Geo. Bassett and Co. Mr. J. T. Fountain remains managing director of the special foods, leisure and distribution division of the group, and Mr. R. L. Frost and Mr. J. Stanier continue as non-executive directors.

Mr. David A. Dierks has been appointed manager of the Europe/Mid-East/Africa Group of FIRST NATIONAL BANK OF ST. LOUIS, based at the branch in London. He replaces Mr. Richard A. Murray who has been appointed deputy international division manager, a new position in the international department of First National, in St. Louis, Missouri.

Mr. Arnold Brackenridge has been appointed president of TRICENTROL OILS, Calgary, a wholly-owned subsidiary of Tricentrol, UK. In 1976, he set up the Denver Arco office in the Rocky Mountain area where he was vice-president and general manager prior to his appointment with Tricentrol.

Mr. Digby N. C. Bedford has been elected to the Board of T. COWIE, the Sunderland-based motor group.

Mr. Bernard Thimon will be retiring from the public service on December 31. He will be succeeded as controller (chief executive) of HER MAJESTY'S STATIONERY OFFICE and as The Queen's Printer of Acts of Parliament by Mr. W. J. Sharp, presently controller of supplies in the property services agency.

THURGAR BARDEX states that, in accordance with the arrangements made with EBCI, Mr. J. A. Lorenz has been appointed to the Board.

Sir William Vincent has been appointed a director of SAVV AND PROSPER INVESTMENT MANAGEMENT.

AMERICAN MONITOR INTERNATIONAL has appointed Mr. Bernard Johnson as financial director.

Mr. Michael Ian Bowstead Straker has been appointed chairman of AYCLIFFE AND PETERLEE DEVELOPMENT CORPORATIONS, to succeed Mr. Dennis Stevenson, whose appointment expires on November 22. Mr. Straker is at present chair-

man of the Newcastle-upon-Tyne Area Health Authority. He is also chairman of the Newcastle and Gateshead Water Company and vice-chairman of the Newcastle University Council.

PROPERTY PARTNERSHIPS has appointed Mr. Paul Raymond King as chairman of the group in succession to Mr. King's father, Mr. Raymond Klag, founder of the company, who died on August 13. Mr. Paul Raymond King has been chairman of the group's principal subsidiary, Property Partnerships (Hotels) since its foundation in 1975.

The Earl of Eglington and Winton, a managing director of GERRARD AND NATIONAL DISCOUNT COMPANY, has been appointed joint deputy chairman.

Mr. John Dickson has been appointed managing director of B.A.T. (UK AND EXPORT). He succeeds Mr. Peter Roberts who has been appointed to a new position in British American Tobacco's Millbank, London headquarters as co-ordinator for Brazil, Finland, Switzerland and new opportunity areas.

CCM MARKETING states that Mr. Ian Medley has been appointed production director. Mr. Medley was with Anglo-Woodsmith before it was taken over by CCM.

Mr. Philip B. Parsons has been appointed managing director of the STAINLESS STEEL WIRE COMPANY. Mr. Peter W. Hammons, former managing director, remains chairman to concentrate on future company development.

Mr. Michael Hughesdon has been appointed a director of LESLIE AND GODWIN INTERNATIONAL.

Mr. John Alan Williams has been appointed a special director of the DUTTON-FORSHAW GROUP. In addition to his group responsibilities for industrial relations and consumer affairs, he will play an active part in administration and marketing.

The Department of Industry has appointed Dr. Robin Nicholson, managing director of Inco Europe, as the chairman of its ENGINEERING MATERIALS REQUIREMENTS BOARD. He succeeds Dr. A. Kelly, vice-chancellor of the University of Surrey, who has completed his term of office.

METAL BOX states that when Mr. I. R. M. Willis retires as chairman of the overseas division in July 1982, he will be succeeded by Mr. P. R. Nanda. Mr. Nanda will become deputy chairman of the overseas division.

JT GROUP has ordered an NCR 18430 computer worth £113,000 to take over and expand processing currently handled by an NCR 18250. The computer will take on accounting and contract costing applications and a new membership records system, which will handle records of the 25,000 members of JT Group's residential country clubs in the south west.

Contracts exceeding £4m have gone to SHEPHERD CONSTRUCTION to build major extensions to two of York's leading hotels, the Viking and the Post House, both of which were built originally by Shepherd Construction. Worth

£2.3m have gone to ROHR INDUSTRIES, LTD. to build a new north stand at Ibrox Stadium, Glasgow, to be called the centenary stand. The work includes the demolition of the existing stand and is due for completion towards the end of 1981.

MARCONI AVIONICS, the GEC-Marconi electronics company has been selected by the Royal Danish Air Force, Air Material Command, to supply head-up displays for RDAF 35KD Draken aircraft. With production options, the total value is expected to exceed £3m.

Contracts totalling over £1.5m have gone to SHIPHEM CONSTRUCTION to build major extensions to two of York's leading hotels, the Viking and the Post House, both of which were built originally by Shepherd Construction. Worth

more than £1.5m, the contract with Grand Metropolitan Hotels to extend the Viking Hotel, North Street, York, is scheduled for completion in February 1981.

Work has started on what will be a five-storey, 72-bedroom extension to the existing hotel, to include a car park and carvery restaurant. The extension block to the Post

House Hotel, Tadcaster Road, south west.

A FINANCIAL TIMES SURVEY VIDEO EQUIPMENT

November 12 1980

The Financial Times proposes to publish a Survey on Video Equipment. The provisional editorial synopsis is set out below:

INTRODUCTION The development and manufacture of video equipment, whether for professional and industrial purposes or the home domestic market, has created a major new industry. Its growth is now expected to be spectacular. This Survey will examine some of the developments now taking place.

Editorial coverage will also include:

The Changing Nature of Video

Forecasting for the Video Market

Video Projectors—The Search for Improvement

Alliances and Allegiances

Squeezing more out of Video Technology

Profile of the Domestic User

Video and the Retail Business

Trends in the U.S.

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Copy date October 29 1980

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Companies and Markets

EEC sugar yields improve

By Our Commodities Staff
TEST results indicate that European sugar production this year could be significantly higher than forecast earlier.

Brighter, warmer weather has allowed sugar beet crops to recover much of the ground they lost during the dull, damp early summer and yields in France, Europe's biggest producer, now look like beating last year's.

Following its third test the French Beet Planters' Association announced yesterday that average root weight had risen to 463 grammes on September 1, from 404 grammes on August 18.

With sugar content up to 15.16 per cent from 13.12 per cent the association put sugar per hectare at 6.62 tonnes, up from 4.91 tonnes on August 18 and 5.94 tonnes at the same stage last year.

In Bonn meanwhile the West German Sugar Industry Association published figures putting sugar per hectare at 6.04 tonnes on September 5. This was still below the 6.71 tonnes registered at the same time last year but was well up on the previous week's 5.27 tonnes.

Average beet weight was 556 grammes compared with a year earlier and sugar content was 14.4 per cent against 15 per cent. But the average number of beet per hectare was 71.700 compared with 70.200.

Alcohol plant start-up

ASCUNCION, Paraguay — An \$18m plant built by the Paraguayan Government to process sugar cane into alcohol will go into production at the end of this month.

The plant will have a daily output capacity of 40,000 litres of alcohol which will be mixed with gasoline to fuel vehicles as part of a drive to reduce fuel imports.

Reuter.

Record crop of Chinese flax

PEKING — The north eastern province of Heilongjiang, China's biggest flax producing area, had a record harvest of 183,000 tonnes of flax this year, more than double last year's output, the New China News Agency said.

More than 94,000 hectares were planted this year, an increase of 32,000 hectare.

BRITISH COMMODITY MARKETS

BASE METALS

TIN—Sharply higher following heavy buying by speculators, forward metal opened firm at £7.210 and touched the day's high of £7.305 on the morning Kerb. However, in the afternoon price action set in and three months settled back to £7.100, the Kerb at £7.200. Turnover: 1,520 tonnes.

COPPER—Slight upward trend over 15,420 tonnes.

ZINC—Record crop of 183,000 tonnes.

ALUMINIUM—Forward metal reported that the market remained quiet.

LEAD—Forward metal reflected the gains in gold, silver and copper. Three months opened at £2.780 and moved up to £2.800 in the afternoon, rings following speculative interest which prompted stop-loss buying. This level encouraged trade buying and profit-taking, however, and settled at £2.810.

AMALGAMATED METAL TRADING reported that the market remained quiet.

WIREBARS—Forward metal reported that the market remained quiet.

CATHODES—Forward metal reported that the market remained quiet.

STAINLESS STEEL—Forward metal reported that the market remained quiet.

STRATEGIC—Forward metal reported that the market remained quiet.

U.S. PROD.—Forward metal reported that the market remained quiet.

——Forward metal reported that

Companies and Markets

LONDON STOCK EXCHANGE

Gilts and Golds dominate with latter at record highs

Further sales of tap stock nears exhaustion

Account Dealing Dates

Options
*First Declara- Last Account
Dealings ions Dealings Day
Sept. 1 Sept. 11 Sept. 12 Sept. 23
Sept. 13 Sept. 25 Sept. 26 Oct. 6
Sept. 25 Oct. 9 Oct. 10 Oct. 20

* "New time" dealings may take place from 9 am two business days earlier.

Investment incentives at the start of the second leg of the stock market trading Account was contained by the immaturity of several important economic pointers. These began with yesterday's wholesale price indices, to be followed today by the August banking statistics and on Friday by the retail price index. Through yesterday's session, Giltsed securities marked time after last week's upturn reflecting on the growing criticism of Government economic strategy. This also helped to suppress any further enthusiasm for leading equities, which drifted a shade easier in a thin trade.

However, a hardening tendency in Gilts ahead of the price indices gathered strength on the announcement of the fifth consecutive monthly fall in manufacturing industry's costs. The Government broker was able to sell more of the partly-paid medium tap stock, Treasury 11½ per cent 1991 "A" at 46½ and withdrew at this price; he was not tested at a higher level but it was assumed that his supplies of the stock must be nearing exhaustion.

The busies period of the day's trade was the last half-hour, during which several longer-dated stocks rose about while medium-coupon issues moved up. Shorter-dated Gilts were relatively subdued and after hovering around Friday's closing levels, ended with fractional mixed changes.

A slightly firmer trend was discernible in leading shares at the outset, but it was soon dissipated and the FT Industrial Ordinary share index eased progressively to stand 2.9 down at 3,000 pm before rallying to close a net 2.4 off at 492.0. Leading Oils failed to extend Friday's firmness and often shed initial gains of a few pence to end that much cheaper, but Press comment aroused further speculative activity which led to fresh sharp gains in Double Eagle and Warrior.

South African Gold shares soared to record levels, as measured by a jump of 19.5 in the FT Gold Mines index to its best-ever 447.5, following widespread demand. The bulk of the

buying came from the U.S. and South Africa and was in recognition of the continuing strength of the bullion price. Individual share price movements ranged to two points and more among selected heavyweight Golds.

Yesterday saw 1,041 contracts completed in the Traded option market, making it the busiest Monday session since the middle of July. Racal Electronics were the most active, recording 129 deals, while 150 were done in Consolidated Gold Fields: the latter's annual results are due next Wednesday.

Hambros fall

Adverse comment on the group's Norwegian shipping interests prompted selling of Hambros Bank which fell to 523p before closing a net 21 down at 533p. Elsewhere in merchant banks, Minster Assets hardened 1½ to 60p with sentiment still bolstered by the increased stake recently taken in the company by Britapnia Arrow. Standard Chartered relinquished a few pence to 55p; awaiting today's interim figures, while Hong Kong and Shanghai gave up 6 to 140p on far-eastern advices. UDT softened a penny to 44p following Christopher Moran's out-of-courtances, rising 3 to 24p on speculative buying. London United Investments hardened a couple of pence to 163p on the cautious optimistic interim statement. Prudential eased a penny to 235c ahead of Thursday's mid-term results. C. E. Heath gave up 3 to 190p and Willis Fother lost 4 to 230p; the latter's first-half figures are due next Tuesday.

Business in the drinks sector was slow to develop and toe Brewery leaders closed mostly unaltered on Friday's closing levels. Among Wines and H. Goidman, 27p, fell 7 and 2 respectively, also on profit-taking. Electrical leaders treaded quietly lower before picking up a penny or two in places, GEC unchanged after dipping to 134p to immediate response to the annual results and slightly discouraging statement.

Building issues put on a rather uninspiring performance. Among the occasional movements Taylor Woodrow edged up 6 further to 496p. Aberdeen Construction continued firmly at 139p, up 2, while favourable Press mention left Comben Group a similar amount higher at 36p. Leyland Paint closed 9 pence firmer at 289p awaiting tomorrow's interim results.

Among Chemicals, ICI moved narrowly before settling 2 dearer at 364p. Occasional support was noted for Amalgamated Distilled Products, 3 up at 44p, while Matthew Clark, 136p, reverted to unchanged after dipping to 134p to immediate response to the annual results and slightly discouraging statement.

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LOANS

BRITISH FUNDS

High	Low	Stock	Price	+/-	Int.	Yield	Rel.
1980							
991	96	FFI 13 Dec 1981	98.5	-	13.17	16.80	
992	95	Agri M.L. 5% 59-69	61.4	-	12.41	14.25	
993	94	Afcon 1 Dec 1981	54.9	-	12.41	14.25	
994	93	Afcon 1 Dec 1982	52.4	-	12.72	14.25	
995	92	U.S.H.C. 1 Dec 1982	104	-	10.67	13.90	
996	91	Do. without Warrants	92	-	10.39	13.90	
997	90	"Shorts" (Lives up to Five Years)	99.5	-	12.05	14.42	
998	89	Exch. 1 Dec 1981	99.5	-	11.54	13.14	
999	88	Treasury 1 Dec 1981	99.5	-	11.54	13.14	
1000	87	Treasury 1 Dec 1982	99.5	-	11.54	13.14	
1001	86	Treasury 1 Dec 1983	99.5	-	11.54	13.14	
1002	85	Treasury 1 Dec 1984	99.5	-	11.54	13.14	
1003	84	Treasury 1 Dec 1985	99.5	-	11.54	13.14	
1004	83	Treasury 1 Dec 1986	99.5	-	11.54	13.14	
1005	82	Treasury 1 Dec 1987	99.5	-	11.54	13.14	
1006	81	Treasury 1 Dec 1988	99.5	-	11.54	13.14	
1007	80	Treasury 1 Dec 1989	99.5	-	11.54	13.14	
1008	79	Treasury 1 Dec 1990	99.5	-	11.54	13.14	
1009	78	Treasury 1 Dec 1991	99.5	-	11.54	13.14	
1010	77	Treasury 1 Dec 1992	99.5	-	11.54	13.14	
1011	76	Treasury 1 Dec 1993	99.5	-	11.54	13.14	
1012	75	Treasury 1 Dec 1994	99.5	-	11.54	13.14	
1013	74	Treasury 1 Dec 1995	99.5	-	11.54	13.14	
1014	73	Treasury 1 Dec 1996	99.5	-	11.54	13.14	
1015	72	Treasury 1 Dec 1997	99.5	-	11.54	13.14	
1016	71	Treasury 1 Dec 1998	99.5	-	11.54	13.14	
1017	70	Treasury 1 Dec 1999	99.5	-	11.54	13.14	
1018	69	Treasury 1 Dec 2000	99.5	-	11.54	13.14	
1019	68	Treasury 1 Dec 2001	99.5	-	11.54	13.14	
1020	67	Treasury 1 Dec 2002	99.5	-	11.54	13.14	
1021	66	Treasury 1 Dec 2003	99.5	-	11.54	13.14	
1022	65	Treasury 1 Dec 2004	99.5	-	11.54	13.14	
1023	64	Treasury 1 Dec 2005	99.5	-	11.54	13.14	
1024	63	Treasury 1 Dec 2006	99.5	-	11.54	13.14	
1025	62	Treasury 1 Dec 2007	99.5	-	11.54	13.14	
1026	61	Treasury 1 Dec 2008	99.5	-	11.54	13.14	
1027	60	Treasury 1 Dec 2009	99.5	-	11.54	13.14	
1028	59	Treasury 1 Dec 2010	99.5	-	11.54	13.14	
1029	58	Treasury 1 Dec 2011	99.5	-	11.54	13.14	
1030	57	Treasury 1 Dec 2012	99.5	-	11.54	13.14	
1031	56	Treasury 1 Dec 2013	99.5	-	11.54	13.14	
1032	55	Treasury 1 Dec 2014	99.5	-	11.54	13.14	
1033	54	Treasury 1 Dec 2015	99.5	-	11.54	13.14	
1034	53	Treasury 1 Dec 2016	99.5	-	11.54	13.14	
1035	52	Treasury 1 Dec 2017	99.5	-	11.54	13.14	
1036	51	Treasury 1 Dec 2018	99.5	-	11.54	13.14	
1037	50	Treasury 1 Dec 2019	99.5	-	11.54	13.14	
1038	49	Treasury 1 Dec 2020	99.5	-	11.54	13.14	
1039	48	Treasury 1 Dec 2021	99.5	-	11.54	13.14	
1040	47	Treasury 1 Dec 2022	99.5	-	11.54	13.14	
1041	46	Treasury 1 Dec 2023	99.5	-	11.54	13.14	
1042	45	Treasury 1 Dec 2024	99.5	-	11.54	13.14	
1043	44	Treasury 1 Dec 2025	99.5	-	11.54	13.14	
1044	43	Treasury 1 Dec 2026	99.5	-	11.54	13.14	
1045	42	Treasury 1 Dec 2027	99.5	-	11.54	13.14	
1046	41	Treasury 1 Dec 2028	99.5	-	11.54	13.14	
1047	40	Treasury 1 Dec 2029	99.5	-	11.54	13.14	
1048	39	Treasury 1 Dec 2030	99.5	-	11.54	13.14	
1049	38	Treasury 1 Dec 2031	99.5	-	11.54	13.14	
1050	37	Treasury 1 Dec 2032	99.5	-	11.54	13.14	
1051	36	Treasury 1 Dec 2033	99.5	-	11.54	13.14	
1052	35	Treasury 1 Dec 2034	99.5	-	11.54	13.14	
1053	34	Treasury 1 Dec 2035	99.5	-	11.54	13.14	
1054	33	Treasury 1 Dec 2036	99.5	-	11.54	13.14	
1055	32	Treasury 1 Dec 2037	99.5	-	11.54	13.14	
1056	31	Treasury 1 Dec 2038	99.5	-	11.54	13.14	
1057	30	Treasury 1 Dec 2039	99.5	-	11.54	13.14	
1058	29	Treasury 1 Dec 2040	99.5	-	11.54	13.14	
1059	28	Treasury 1 Dec 2041	99.5	-	11.54	13.14	
1060	27	Treasury 1 Dec 2042	99.5	-	11.54	13.14	
1061	26	Treasury 1 Dec 2043	99.5	-	11.54	13.14	
1062	25	Treasury 1 Dec 2044	99.5	-	11.54	13.14	
1063	24	Treasury 1 Dec 2045	99.5	-	11.54	13.14	
1064	23	Treasury 1 Dec 2046	99.5	-	11.54	13.14	
1065	22	Treasury 1 Dec 2047	99.5	-	11.54	13.14	
1066	21	Treasury 1 Dec 2048	99.5	-	11.54	13.14	
1067	20	Treasury 1 Dec 2049	99.5	-	11.54	13.14	
1068	19	Treasury 1 Dec 2050	99.5	-	11.54	13.14	
1069	18	Treasury 1 Dec 2051	99.5	-	11.54	13.14	
1070	17	Treasury 1 Dec 2052	99.5	-	11.54	13.14	
1071	16	Treasury 1 Dec 2053	99.5	-	11.54	13.14	
1072	15	Treasury 1 Dec 2054	99.5	-	11.54	13.14	
1073	14	Treasury 1 Dec 2055	99.5	-	11.54	13.14	
1074	13	Treasury 1 Dec 2056	99.5	-	11.54	13.14	
1075	12	Treasury 1 Dec 2057	99.5	-	11.54	13.14	
1076	11	Treasury 1 Dec 2058	99.5	-	11.54	13.14	
1077	10	Treasury 1 Dec 2059	99.5	-	11.54	13.14	
1078	9	Treasury 1 Dec 2060	99.5	-	11.54	13.14	
1079	8	Treasury 1 Dec 2061	99.5	-	11.54	13.14	
1080	7	Treasury 1 Dec 2062	99.5	-	11.54	13.14	
1081	6	Treasury 1 Dec 2063	99.5	-	11.54	13.14	
1082	5	Treasury 1 Dec 2064	99.5	-	11.54	13.14	
1083	4	Treasury 1 Dec 2065	99.5	-	11.54	13.14	
1084	3	Treasury 1 Dec 2066	99.5	-	11.54	13.14	
1085	2	Treasury 1 Dec 2067	99.5	-	11.54	13.14	
1086	1	Treasury 1 Dec 2068	99.5	-	11.54	13.14	
1087	-1	Treasury 1 Dec 2069	99.5	-	11.54	13.14	

